The Illinois Medical Journal.

The Official Organ of The Illinois State Medical Society.

New Series, Vol. IV. No. 12. | Springfield, Ill., May, 1903. | Subscription $3.00 a Year.

THE DIAGNOSIS OF CHRONIC INTERSTITIAL NEPHRITIS BASED UPON PHYSICAL SIGNS, CHIEFLY CARDIO-VASCULAR.*

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Pathologically it is easy, on paper, to classify the various forms of chronic nephritis. The usual types are very familiar—the large kidney, which may be (a) the large red or variegated kidney of chronic hemorrhagic nephritis, showing a grayish red surface often dotted with yellow spots of fatty degeneration; or (b) the large white kidney of chronic parenchymatous nephritis, with its yellow mottled cortex often showing hemorrhagic spots. Besides these two types of enlarged kidneys there are two types of contracted ones. Each of the above mentioned enlarged kidneys, provided the patient survives sufficiently long, may gradually shrink until it resumes its normal size, the process being called secondary contraction; so that the term secondary contracted kidney is an eminently fitting one. There is also another form of chronic nephritis called clinically chronic interstitial nephritis, of which the kidney has never been increased in size, but from the very beginning by a process of exceedingly gradual atrophy of the proper renal elements and their partial substitution by cicatricially contracting interstitial tissue, has become primarily contracted; for this form the term primary contracted kidney is eminently fitting.

Clinically attempts at a classification of the various forms of chronic nephritis usually lead to confusion, owing to the fact that transitional forms between the various types exceed in number the typical cases themselves. Indeed one with an ample clinical experience may easily arrange his cases of chronic nephritis in a series beginning with the large white kidney of chronic parenchymatous nephritis, ultimately arriving at the secondary contracted kidney of chronic diffuse nephritis, which clinically may be scarcely distinguishable from the primary contracted kidney of chronic interstitial nephritis. Indeed some excellent clinicians simply content themselves with the diagnosis of chronic nephritis, without regard to whether the case is one of chronic parenchymatous, or chronic interstitial, or any one of the numerous intermediate forms ordinarily termed chronic diffuse nephritis. However, all physicians will doubtless agree that there is a form of nephritis attended with marked cardio-vascular changes, with little or no oedema, as a rule attacking persons in their third, fourth, or fifth decade of life, often running a course extending from ten to twenty years or more; sometimes almost benign in type, but sometimes suddenly terminating in uraemic coma without a trace of oedema, furnishing a form difficult to distinguish from cerebral hemorrhage. It is of this form which most of all stands out clear-cut among the nephritides, that I wish to speak.

Clinical experience clearly teaches the beginning physician the necessity of being able to diagnosticate chronic interstitial nephritis which makes up a fair percentage of his practice; for example in 918 medical cases which I have seen at the Post-Graduate Medical School of Chicago, this form of nephritis appeared 29 times, or in a little less than 3 per cent. of cases; and during each of the last two years 3½ per cent. of the total deaths in Chicago have been due to the various forms of chronic nephritis. A disease which makes up from 2 per cent. to 4 per cent. of a physician's practice demands careful consideration.

Chronic interstitial nephritis is a protean disease, prolific in complications, as a rule

* Read the meeting of the Illinois State Medical Association at Quincy, May, 1902.

insidious, often latent for years, betraying itself to its victim only by its sequelae. The patient does not come with the complaint of "kidney-trouble" as does the man with the backache; instead he complains of deafness, or of impaired vision, vertigo, neuralgia, sciatic neuritis, indigestion, headache, dyspnoea, epistaxis, some psychosis, or possibly pernicious or at least grave anaemia. Yet behind these diverse complaints, as a rule, a definite set of physical changes, chiefly cardio-vascular, may be found, a thorough knowledge of which enables the physician to make the diagnosis without immediate recourse to the examination of the urine. Indeed, the diagnosis should in all cases be based upon the physical findings, and not upon the chemical and microscopical analyses. The physical examination should invariably be made first, and should lead to the provisional diagnosis; the urinary findings should be used merely as confirmatory evidence.

Some physicians never examine the patient's body for evidences of renal disease; they trust entirely to the analysis of a single specimen of day-urine, which, in a fairly large number of cases, results negatively. The physician who approaches the problem from the point of view of the urinary examination alone, often falls into error. It is, for example, well known on the one hand that cases of chronic interstitial nephritis occur without the presence of albumen or casts in the urine; and on the other hand, many individuals may show casts of the hyaline type without albumen, or albumen without casts, where no nephritis exists. Even acute nephritis has been observed without albuminuria; but of all the forms of nephritis, the chronic interstitial form is the one which most often fails to show albumen. Despite a large number of such cases long since reported by others, I wish to mention briefly three or four additional cases. The first patient was one who suffered from a stenosis of the small intestine, which was not found and relieved, though two surgeons performed exploratory laparotomy. At the two hospitals to which the patient was admitted the customary urinary examinations resulted negatively. I confess that I failed to diagnosticate chronic interstitial nephritis, the patient not showing the ordinary physical signs of nephritis. This patient subsequently died of his intestinal stenosis. Two primary contracted kidneys were found, to the surprise of those who attended him in his last illness. In this case albumen and casts were never found by any observer.

The second patient is one under my observation during the last year of his life. For a period of three consecutive weeks, some eight months before his death, this patient passed urine which was practically normal in amount, specific gravity, absence of casts and albumen; being suspicious only in its slight reduction of the urea. The patient presented himself with the history of four years of dyspepsia, later associated with intermittent vertigo and some deafness. The cardio-vascular changes demanded the diagnosis of chronic interstitial nephritis, which was immediately made and maintained in spite of the negative urinary findings. An autopsy showed typical primary contracted kidneys.

The third case is that of a patient who nine years ago sought relief from dyspepsia, and in whose case the attending physician made the conservative diagnosis of idiopathic cardiac hypertrophy, rendered plausible because the patient had been a sprinter in his college days, and had seen hard training. Yet five years later when the patient came to me for a follicular tonsillitis and the tension of his radial artery excited my suspicion, I found albumen and hyaline and finely granular casts. I have the positive assurance from this patient that at the time of the diagnosis of idiopathic cardiac hypertrophy, numerous careful analyses of his urine were made, with negative results.

The fourth case is one who shows retinitis albuminurica and albuminuric deafness, who, it is true, shows albumen and casts in twenty-four hour specimens, but who frequently shows neither in single specimens. These cases are only some of several personally observed. The second case and others similar to it which I have met with have led me to believe that in chronic interstitial nephritis, just as there is an undoubted pre-albuminuric stage, there is also after a long

period of polyuria and wasting of renal tissue, a second period or post-albuminuric stage, in which for a time the urine is passed in amounts approximately normal and fairly free from albumen and casts. This latter period marks the stage of extreme atrophy of proper renal tissue, and is, as a rule, rapidly followed by failure of cardiac compensation, and by death.

The necessity, then, of basing the diagnosis of chronic interstitial nephritis upon more constant findings than those obtained from an examination of the urine, must be evident. Physical findings, chiefly cardio-vascular, afford a more certain foundation for the diagnosis than laboratory findings.

The *vascular* changes in chronic interstitial nephritis are frequently slighted, yet they merit consideration and are in themselves thoroughly interesting. The arteries, as a rule, present an hypertrophy of both their muscular and fibrous coats, the hypertrophy evidently being an attempt upon the part of nature to compensate for the increased arterial tension, the cause of which is to be discussed later. The arteries are therefore firm and unyielding, far less elastic than normal. Practically they are the arteries of arteriosclerosis, firm, tough and tortuous. Indeed, it is very questionable whether the diagnosis of arterio-sclerosis is not really very frequently a diagnosis of chronic interstitial nephritis. The result of the thickening of the vessel walls is an increased arterial pressure, which by increasing the work which the head has to perform, secondarily leads to additional cardiac hypertrophy. Thus a vicious cycle is established, the cardiac hypertrophy increasing the external tension and compensatory thickening of the arterial wall; and the thickened arterial wall, by decreasing the normal elasticity and vascular arterial area, causing still further cardiac hypertrophy.

The effect just mentioned is produced upon all arteries, whether systemic or pulmonic. The radial artery can be felt; its firmness, toughness and tortuosity are perfectly apparent; but no one can feel the pulmonary arteries and appreciate their changes; hence they are ignored. Yet there is a sign telling fairly clearly of this increased tension in the pulmonary area, the accentuation of the pulmonic second sound occurring before hypertrophy of the right ventricle and not lightly to be explained away. The text-books have long taught that accentuation of the second aortic sound is present in nephritis; to this dictum can be added another, that the pulmonic second sound is also accentuated. The degree of accentuation of these two valvular sounds is of some prognostic value; if the sounds are but slightly accentuated, and indistinct rather than clear and ringing, there may be present or threatening a failure of compensation. As a rule there is a definite parallel between the amount of tension shown in the radial artery and the degree of accentuation of the second aortic sound; and to the physician who does not know how a renal pulse feels, or to the student who is anxious to learn how to recognize a renal pulse, the suggestion may be given that by feeling the pulse and then listening to the second aortic accentuation he may in time arrive at great proficiency in estimating pulse-tension.

The renal pulse is usually one of abnormally high tension, so high that a capillary pulse is frequently found, just as in aortic insufficiency. The tension is so high that Lepine suggested that it might be in part due to disease of the suprarenal bodies, possibly associated with the renal process. The pulse is also a pulsus tardus, the high crest lingering beneath the finger. Often, however, the pulse tension is not increased, especially in all cases of failing cardiac compensation, where the pulse may be frequent and small, easily compressible. Usually the pulse is rhythmical, but toward the end it may be markedly intermittent.

Occasionally it happens that arterial tension is raised so high that hemorrhage takes place. The hemorrhages may be nasal, retinal, cerebral, uterine, etc., occurring wherever a weak artery is found. These are the cases in which, to the layman, the diagnosis of nephritis seems especially strange. I have had cases illustrating all of the forms of hemorrhage, but will mention only one as noteworthy.

Mrs. C. W., age 39. Family history negative. The patient has been accustomed

to the moderate use of beer. Present illness; four years ago, without apparent cause, the patient had a very severe uterine hemorrhage, without history of miscarriage, polyp, etc. She was taken to the Cook County Hospital, where she remained twelve days and was then discharged. She was well till October, 1900, when she had another hemorrhage, for the relief of which she came to the Postgraduate Medical School. Gynecological examination was entirely negative, and she was turned over to the medical department for diagnosis. Physical examination showed the cardio-vascular changes of chronic interstitial nephritis, later confirmed by positive urinary findings. In December, 1901, the patient had a third and very extensive hemorrhage.

The case just mentioned is an excellent illustration of a fact of common knowledge, that chronic interstitial nephritis is frequently a cause of grave secondary or chlorotic anaemia. But chronic interstitial nephritis as a cause of primary, progressive, or idiopathic anaemia, is almost never alleged. The following case is of much interest in this connection. The patient was seen Jan. 13, 1897, two days before her death in the General Hospital at Vienna.

Mrs. X., German, 58 years of age, of slight built, weight about 110 lbs. Previous history: For four years she had suffered from severe anaemia accompanied by occasional epistaxis, sometimes severe. In 1895 she entered Schrotter's clinic, and four months later Neusser's clinic, where she showed signs of a primary pernicious anaemia with macro, micro, and poikilocytes, megaloblasts, and karyolysis with free nuclei. In three weeks she made great improvement, and ultimately left the hospital with the blood findings showing practically a secondary or chlorotic anaemia. The epistatic ceased, and was looked upon as the epistaxis of anaemia.

Present history: Patient again enters the hospital for epistaxis and dyspnoea, Jan. 13, 1897. The blood shows 928,000 erythrocytes and 17½ per cent. haemoglobin. The color index is about unity, 35/37. Leucocytes 700, with the propartem of 1 to 1,180 erythrocytes. Marked macrocytes, microcytes and poikilocytes; no nucleated blood corpuscles, and hence a serious prognosis. The coagulation power of the blood is greatly reduced. The nose shows merely a few dilated veins. The heart is increased to the left to the mamillary line, evidently a dilatation from anaemia, the pulse being so small as to be scarcely perceptible. Loud systolic murmur over the whole cardiac area, loudest at the base; venous hum in the neck. No accentuation of the second sounds. Urinary examination on this and all other occasions entirely negative, though made very carefully and frequently on account of the known relation of epistaxis to nephritis. The diagnosis made was primary pernicious anaemia, if there be such a thing; but most likely a secondary pernicious anaemia of unknown etiology. The patient lived but two days. At the autopsy Prof. Kolisko, to the surprise of all, found as the only pathological condition, two very small primarily contracted kidneys. The heart, due to the grave and persistent anaemia, had never been able to hypertrophy and so to give the usual cardio-vascular signs of the disease; and the negative urinary findings were probably due to the fact that almost nothing of the proper parenchynia remained to produce casts or albumen.

Aside from epistaxis, which is said to mark either the beginning or end of the malady, and the occurrence of which in the fourth, fifth, or sixth decade of life should excite the suspicion of chronic interstitial nephritis, cerebral hemorrhage is the next most common form of hemorrhage. About 20 per cent of all cases of chronic interstitial nephritis die of it. Hemorrhage from the ear is frequently renal, and the term proposed, of myringitis, or tympanitis albuminurica, is justified. Retinal hemorrhage is by no means uncommon. A patient admitted last winter at midnight to the Mercy Hospital on account of an uncontrollable epistaxis, was blind in his right eye, and had been so for two years. The blindness was due to retinal hemorrhage, and this hemorrhage and the epistaxis were due to chronic interstitial nephritis.

The *cardiac* changes are exceedingly valuable from a diagnostic standpoint. Inspec-

tion shows much: the apex-beat is often seen in the sixth interspace, usually as far out as the nipple-line. An epigastric pulsation (not the worthless sign that some conceive it to be) is usually present. Rarely a pulsation may be seen in the second right intercostal space, the visible manifestation of an intense accentuation of the aortic second sound. The suprasternal notch is generally full.

Palpation shows a vigorous heart-beat. The apex is felt sometimes in the fifth, but usually in the sixth interspace, or perhaps behind the sixth rib, in the nipple line, or farther toward the axillary line. The apex-beat may be sharp, but is often diffuse, extending over a fairly wide area, due to the rounded apex of the heart. Occasionally the closure of the aortic and even of the pulmonic valves can be felt. More important than these signs, however, is the pulsation which can be felt in the suprasternal notch. The pulsation is transmitted either from the transverse arch of the aorta, which normally should extend no higher than one inch below the supra-sternal border, or from the three great vessels springing from the arch, the innominate, and left carotid and subclavian arteries. In chronic interstitial nephritis, aortic insufficiency, aneurysm, failure of compensation in all forms of valvular disease, and in a few other much rarer conditions than those just mentioned, this sign is met. In the 29 cases previously referred to, this sign was always present, and it is a very convenient one to get at in either man or woman. Given a hard radial pulse and a suspicious anamnesis it is my custom to insert my finger into this notch, asking the patient to bend the head forward so that I can better feel beneath the manubrium; and if a pulsation is found, full physical examination is at once asked for. Personally I regard a palpable pulsation in the suprasternal notch as of much value in finding the presence of chronic interstitial nephritis.

Percussion is of value in substantiating the results of inspection and palpation, but is often made difficult by a coincident emphysema. The outline of the heart in chronic interstitial nephritis is fairly characteristic; it most nearly resembles the heart found in aortic insufficiency. It is as a rule elongated, the apex being in the sixth space in typical cases, and the transverse arch of the aorta nearer the notch than is normal. The area of dullness usually extends only to the midsternal line; if it be found beyond that, there is hypertrophy of the right ventricle. To the left there is dullness as far as the upper-line at least, and usually beyond it, such increase, however, being frequently annihilated by emphysema. In extreme cases the dullness extends to the anterior axillary line, such a large increase usually meaning a dilatation added to an hypertrophy.

Auscultation is quite as valuable for its negative findings as for its positive ones. The most characteristic auscultatory signs are the accentuations of the second aortic and pulmonary sounds, the latter not infrequently being louder than the former. The heart-sounds are pure, yet the first sound is sometimes indistinct, seemingly muffled, and prolonged; it may be redupicated. As a rule both sounds are increased in strength. If there be failure of compensation, a *bruit de galop* may be heard, all four sounds being made separately owing to a lack of synchrony between the contractions of the ventricles and the closure of the semilunar valves. Murmurs are not present except when compensation has failed, when the systolic murmur of a relative mitral insufficiency may develop from a stretching of the ring of insertion of the mitral flaps, caused by the dilatatio cardis. An absence of murmur is not necessarily proof that a relative mitral insufficiency is not present.

The differential diagnosis between valvular disease and chronic interstitial nephritis can be made largely from the heart alone, without recourse to special symptoms, especially retinitis albuminurica which is exceedingly valuable. It is never a case of valvular disease in general which must be differentiated, but rather mitral insufficiency. Aortic stenosis, for example, besides being exceedingly rare, could not possibly

be mistaken for chronic interstitial nephritis; neither could uncomplicated mitral stenosis be so mistaken. The small pulse alone, and the shape of the heart, if an additional diagnostic point is needed, suffice for the differentiation. Aortic insufficiency, by the shape of the heart, its elongation, the apex appearing in the sixth space, and the high tension of the pulse may occasion confusion; in aortic insufficiency, however, there is a pulsus celer et altus and in nephritis a pulsus tardus. The absence of the diastolic murmur in nephritis is, of course, the valuable differential point. Mitral insufficiency alone or in combination with stenosis is not easily differentiated. In general, however, the hearts differ in the two conditions, in the area of dullness, valvular hearts showing marked increase to the right, nephritis hearts showing only slight increase in that direction. As a rule the apex is in the fifth interspace in mitral insufficiency, and in the sixth in nephritis; in mitral insufficiency the pulmonic second sound is much accentuated, being invariably much louder than the aortic second sound, whereas in nephritic hearts the aortic second sound is more accentuated than the pulmonic, with few exceptions. Nephritic hearts, unless a relative mitral insufficiency be present, show no systolic murmur, whereas mitral hearts show its presence; moreover the history of the patient is valuable, often showing a possibility of an endocarditis and sometimes seeming to show that an endocarditis could never have been present. Sometimes the question as to whether a given insufficiency is relative or absolute cannot be settled, albumin and casts in the urine being explained either as due to a chronic interstitial nephritis or to a chronic passive hyperaemia of the kidneys. Here the signs of uraemia, toxaemia, retinitis albuminuirica, deafness and hemorrhages must be sought for, so that the anamnesis is, of paramount importance, though it must be secured in a non-suggestive manner, to be of value.

The cardiac hypertrophy in chronic interstitial nephritis is so important as to deserve more extended consideration. According to Traube's old statistics, 93 per cent. of cases show the hypertrophy, only 7 per cent. being without it. The hypertrophy is both concentric and excentric; that is, hypertrophy may take place without dilatation, or there may be some dilatation with subsequent hypertrophy. The separation of these two types is clinically impossible and pathologically useless. As a rule the left ventricle is the portion most hypertrophied, the right ventricle not increasing in size until the left ventricle shows signs of failing compensation. The right ventricle may be primarily hypertrophied on account of increased resistance in the pulmonary circulation. If the two ventricles appear to hypertrophy simultaneously, the increase may possibly be due to toxic irritation of the myocardium, if we are to believe Dickinson. As a rule the degree of hypertrophy is extreme, the heart weighing from two to three times its normal weight, so that the term *cor bovinum* is with propriety applied to it.

Aside from the suggestions just mentioned as to the cause of the cardiac hypertrophy, there are two theories advanced, the mechanical theory of Traube, dating back to 1856 and the chemical theory of Bright himself. According to the mechanical theory of Traube the partial obliteration and destruction of numerous small blood-vessels in the kidney by the increase of interstitial tissue and its secondary shrinking, raises the arterial pressure. Yet it is a fact that ligature of an entire renal artery does not raise the pressure, much less the ligature of a few small branches. More plausible is the extended mechanical theory of Gall and Sutton, who believe that all cases of chronic interstitial nephritis begin in the capillaries of the systemic circulation, and that this capillary fibrosis necessarily raises the blood-pressure to such an extent as to produce secondary cardiac hypertrophy. Apparently in support of this is the undoubted fact that slight cirrhosis of the liver and of the pancreas accompany pronounced cirrhosis of the kidneys; yet it is quite possible that the hepatic and pancreatic cirrhosis are not simultaneous but rather secondary processes. The keenest blow against this theory is the

one dealt by the pathologists; investigations do not substantiate the fundamental basis of a capillary fibrosis.

The old theory of Bright himself, the one to which clinicians have wisely reverted, is the chemical one. Due to the retention in the blood and body of constituents which ought to be eliminated, materials which cause an increase of arterial pressure, the work of the heart is increased and the hypertrophy follows. This hypertrophy occurs in all cases of nephritis, both acute and chronic, provided the condition of the patient be not too bad for hypertrophy to take place at all; and since the theory satisfactorily accounts for the rapid hypertrophy and increase in pulse tension seen even in the short course of an acute nephritis, I am very willing to accept it, leaving it to the physiological chemists to find out what the irritating substances really are. There is, at all events, from the irritation of toxines a primary contraction of the smaller arterioles; this contraction raises arterial pressure, and so causes cardiac hypertrophy.

Cardiac hypertrophy in nephritis is thus nature's curative process; the increased cardiac power promotes increased diuresis for the purpose of sweeping out the toxines. Why there should be these toxines in nephritis, is a question as yet wholly unsolved. Lepine, as before mentioned, casually suggests that the suprarenal bodies may be at least physiologically affected in nephritis, and so raise arterial pressure by causing arterial contraction. Whatever the cause of the hypertrophy, it at least prolongs the patient's life, and its good or poor-development should greatly influence the physician's prognosis. The hypertrophy is the condition which the physician should strive to establish. It has two vast advantages: first, it provides for better elimination of toxic matter, and secondly, it keeps down the oedema. Oedema in general is due to blood stasis in the capillaries with transudation of the serum. The hypertrophied heart supplies an increased *vis a tergo*, hurrying the blood stream along, and according to Dickinson, by the suction-power of the auricles and ventricles, pulls the blood out of the venous capillaries, sucking it toward the heart. This suction-action, not apparent in a normal heart, is said to be pronounced in an hypertrophied one.

The hypertrophy has its disadvantages as well as its advantages: hemorrhages are apt to take place. Haematuria is exceedingly rare; epistaxis, hemorrhage from the bowels in the rare cases showing intestinal ulceration, retinal hemorrhages with amaurosis, auditory hemorrhages, and most of all, cerebral hemorrhage, afford the chief dangers. In treating a case, therefore, the physician must use great judgment; it is his duty to keep an even tension in the radial pulse. Cardiac stimulants should never be given unless cardiac failure is evident; and when arterial pressure is very high it should be lowered by nitroglycerine or the nitrites. Their timely administration may prevent cerebral hemorrhages. Undoubtedly epistaxis is a conservative process and does the patient good instead of harm; it is certain that the pulse is better after a moderate epistaxis than before it took place.

Hypertrophy occurs in all cases except in the weak and debilitated patients who cannot store up enough nourishment to enable the heart to hypertrophy. Nephritis in the very old, the tuberculous, and the cachectic, is not attended with hypertrophy. Besides these cases there are a few cases of vascular hypoplasia first noted by Lancereaux two decades since, and subsequently by Dieulafoy, Besancon, and other French observers. Accompanying the vascular hypoplasia is a chlorosis and a nephritis. I saw such a case myself in Vienna, in a girl of 18 years of age. Some dozen or so of these cases with autopsy have been reported, the nephritis being substantiated by post-mortem examination, the hearts in all cases not only being not hypertrophied, but even smaller than normal, with small aortae. Lancereaux is of the opinion that the vascular hypoplasia extends as far as the kidney, and so is responsible for the renal atrophy. Dieulafoy has named the condition *chloro-Brightisme*. The hypoplasia is in general an indication that the developing force in the patient is poor; that it is exhausted even

before the adult stage is reached. If a pathological condition arises, not enough developing energy remains to make possible the cardiac hypertrophy. Hence these cases very rapidly succumb, being deprived of the benefits of hypertrophy.

Not at all infrequent, according to the best observers, notably Sansom, is an associated pericarditis in the late stages of chronic interstitial nephritis. Within the last six weeks I have had such a case, where the diagnosis is at least hydropericardium, if it be not a true pericarditis; but since there is no demonstrable ascites, and merely a trace of hydrothorax the diagnosis of pericarditis is fairly sure. The patient, aged 38, came to my clinic April 9th complaining of great dyspnoea and pain in the left abdomen. He felt a ball in his stomach, a striking symptom in this connection. His greatest grievance was that he could not walk a block without sitting down on the sidewalk to rest. Orthopnoea was absolute; he had not been in bed for two weeks, and even after two weeks of treatment he could lie down for only a short time. Examination showed a bulging forward of the left chest, a muffled and subdued heart-beat, a typical pear-shaped area of dullness, but nothing on auscultation. No friction rub could be heard, merely a change in the clearness of the heart sounds with change of posture. The sign of abdominal pain is important in connection with this form of pericarditis, according to Sansom, and was the second complaint which the patient made as to his condition. Both Dickinson and Sansom insist in the prevalence of pericarditis toward the termination of cases of chronic interstitial nephritis, the pericardial thickening often being quite extensive and greatly increasing the weight of the whole organ. Pain in the abdomen or no pain at all are characteristic of this condition.

Another striking feature in chronic interstitial nephritis is the absence of oedema of the renal type. Oedema of course occurs, but possibly almost never on account of disease of the kidneys, rather, on account of failure of cardiac compensation. Some cases of chronic interstitial nephritis, dying suddenly of cerebral hemorrhage or uraemic coma, may show no oedema at all. Others may show it only shortly before death. When oedema occurs, its distribution is quite unlike that of chronic parenchymatous nephritis. The oedema of nephritic type is an aggressive affair, the oedema from cardiac failure a more passive process. The former produces great turgidity of the face, especially puffiness of the eye-lids, and swelling of the scrotal sac. The cardiac oedema is rather confined to the extremites, an ascites, and hydrothorax.

The special sense organs show changes so characteristic as to demand some mention. Retinitis albuminurica, producing an amblyopia is one of the earliest evidences which the patient may show; and it is common knowledge that oculists are frequently the first to make the diagnosis. The onset is as a rule extremely sudden, like the onset of uraemia. For example, I was called Oct. 23, 1901, to see a patient of 62 years who said she had never been sick and was not then sick, but that something was wrong with the right eye. She had been driving the day before and the day being a windy one, she attributed the slight blurring of vision to dust. By the following morning the dimness had increased to such an extent that with the affected eye persons could not be recognized at a distance of a few feet. The suggestive history prompted palpation of the radial artery and the suprasternal notch, and further examination of the heart itself abundantly justified by its findings the diagnosis of chronic interstitial nephritis. Treatment was immediately begun. On the next day a twenty-four hour specimen of the urine showed albumin and casts, and the oculist reported a retinitis albuminurica. The report of the oculist was accompanied by a prognosis of a six months life expectancy, despite the patient's fairly good condition, because the retinitis was looked upon as a fair measure of the general amount of vascular degeneration present. Seven months have passed, and the patient is better than ever. I find two years given by oculists as the extreme limit in these cases. I protest against this prognosis because I

have followed two cases who have already passed beyond the two year limit, and Dr. Arthur Edwards informed me that he recently performed an autopsy upon a patient showing distinct albuminuric retinitis as early as 1894. In amaurosis due to retinal hemorrhage or to a neuro-retinitis, the prognosis is said to be worse than in amblyopia; yet I have seen a patient who two years previously had a retinal hemorrhage.

Analogous to the retinitis albuminurica is the deafness frequently found. Tests will show at once that it is a nerve-deafness, and not a deafness due to defect in the conductive apparatus. As a rule, renal deafness is associated with tinnitus aurium, or may be preceded by it for a period of two or three years. Often there is an associated vertigo. The deafness and the vertigo are characterized by fairly large oscillations, being much more pronounced on some days than on others. It will be observed that the defects of sight and hearing occur in the case of two cranial nerves that are not true nerves, but rather outgrowths of the brain itself. It is an interesting question whether the third embryological cerebral outgrowth, the olfactory tract, bulb, and nerves, do not react to toxines in the same manner as do the second and eighth nerves. Doubtless it will be found, if careful histories are taken, that smell, too, is subject to defect in chronic interstitial nephritis.

Discussion.

George W. Webster, of Chicago: Mr. Chairman.—I do not like to let so interesting a paper as this be passed by without at least a word of commendation. It seems to me that this is a matter of exceedingly great value, because the average practitioner depends for his diagnosis of nephritis upon an examination of the urine. He particularly expects to find albumin and casts. I think it is unusual for the general practitioner to carefully estimate the actual work of the kidneys, as shown by the total solids excreted, and the total urea in twenty-four hours, having due regard for the character of the diet of the patient during that time. Under these circumstances, where that is not done, the diagnosis is not correct, but where we have due regard for the points that have been laid down by Dr. Mix our diagnosis cannot be otherwise than correct. To recognize the existence of cardio-vascular changes is of the utmost importance to the diagnostician when considering cases of nephritis, and I think that these conditions are too often overlooked by the average practitioner.

L. H. Mettler, of Chicago: I would also like to speak from clinical standpoint. I hope that the Doctor, in closing his discussion, will give us just a word or two in regard to any other signs, especially neurotic indications, that would help us very much. I sometimes feel that when cases come to me manifesting certain disturbances of the nervous system of an indefinite character, which are referred to and classified under that peculiar unsatisfactory name, the neuroses, I have sometimes felt that if we look to the kidney, particularly the alterations in the circulation, that we might find some explanation for that. I have no idea what the nature of these cases may be; whether it be due to a slight toxic condition in these cases of chronic nephritis is uncertain, but I have often observed cases of a neurological character, manifesting a slight degree of insomnia, a little malaise, possibly slight loss of memory, that were not true cases of neurasthenia. I have been very uncertain as to what to call them, and where to place them. Sometimes I have suspected what I would call a renal insufficiency, and by treating that condition I have found some of these slight neurotic symptoms and manifestations to clear up. Whether that hit directly upon the etiologic cause, I do not know, but quite a number of these mild forms of neurotic disturbances have seemed to me to be almost directly due to some disturbance in the function of the kidney. Therefore, I am especially interested in this paper, which shows us how difficult it is to diagnose the renal condition. It seems to me that with a little information on the line of possible nervous manifestations associated with these obscure conditions, outside of what we can detect through the pulse and heart, might be of some assistance to us in making a diagnosis.

J. W. Hensley, of Peoria: I should have been pleased to have heard the paper in its entirety, but with reference to the neurotic conditions that may present themselves, let me say that many times a patient will go from one physician to another, one finding albumin and another not finding it. I have had such experiences myself, but towards the latter end of these cases of interstitial nephritis I think we show that we have a disturbed vision, or sometimes disturbance in digestion, or in the hearing, and to my mind they are important diagnostic points. This is especially true in cases of interstitial hardening of the kidney. It is very plainly to be seen why we may not have albumin. The kidneys are so hard that they cannot secrete or throw off the albumin or casts. Symptoms affecting the eyes, the heart, the brain, and the digestive tract are of great importance in making a diagnosis of this condition.

R. B. Preble, of Chicago: I should like to add a word of commendation because the matter is of the very greatest importance, and the paper again draws attention to the fact that Bright's disease of the kidney is not a disease of the kidney itself but a disease of the entire cardio-vascular system, and probably the commonest form of disease of this system,

showing itself particularly in chronic inflammations of the kidney fails to give albuminuria. It is important to draw attention to the fact that albuminuria is not necessarily an evidence of chronic inflammation of the kidney, as we may have albuminuria and casts without there being anything present of the disease which we ordinarily understand under the term of Bright's disease. It is important that the attention of the profession should be drawn to the fact now, when we find scattered through the literature of the past few years, and constantly increasing in number, interferences by the surgeon in cases of Bright's disease. Only a few months ago one of the prominent surgeons of New York reported eighteen cases of Bright's disease cured by operation. Yet all but the last two were as free from Bright's disease, according to the report, as any could be. His report shows that there is a tendency to operate in these cases with the idea that they are local diseases of the kidney. They are not local diseases of the kidney, but diseases of the entire vascular system, and any paper, particularly so able a paper as this, which draws attention to the fact that the disease commonly known as Bright's disease is not a local disease of the kidney, and that albuminuria and casts are not necessarily an evidence of nephritis, is to be commented upon and scattered broadcast. I am particularly interested in this phase of the subject, because I have at present collated the literature, and shall present to you shortly a review of cases of so-called nephritis which have been treated by surgical means.

Dr. Mix (closing the discussion): I thought it wise not to say anything in my paper about the neuralgias which are so common in nephritics. I had a case about three weeks ago, a lady, who had been to see nine doctors before she came to see me. Of this number, only two made a urinary examination; one reported no albumin present, and the other, who made the examination right in the office while the patient was waiting and watching, reported no albumin. He said that she had a case of supraorbital neuralgia, and treated her accordingly. She got tired of him, and thought she would try another. I was the next man. I made the diagnosis of chronic interstitial nephritis, and my treatment was directed toward the elimination of the toxins, physiological chemistry will have to tell us what they are, but since then there has been very marked improvement in her case. The changes which take place in the retina and in the brain and cord membranes, to which the terms meningitis albuminurica may properly be applied, and other changes, as, for instance, the association in the late stages of chronic interstitial nephritis with pericarditis, are very interesting. The length of my paper simply justified me in making mention of these combinations. Sansom, Dickinson, and other authorities of the English school, insist upon this association, and I have at the present time under treatment a negro who shows this very combination. He is thirty-eight years old; he came to me about six weeks ago, when he was unable to walk a block without sitting down on the sidewalk and resting himself. The orthopnea was terrible. He could not lie down at all for over two weeks. He showed the ordinary typical changes of pericarditis with hydropericardium, but without very much hydrothorax or ascites. I made a diagnosis of pericarditis, in spite of the fact that there was no friction sound. A very vague and interesting feature in the case was cough, and, second, a very severe pain in the left abdomen, which led me to the diagnosis very quickly, because this is one of the manifestations of renal pericarditis.

Another point which I wish to mention is the effect of the nephritis on the alimentary canal, both the stomach and intestines. Dickinson collected some twenty-two cases of dyspepsia which showed ulcerations of the small intestines, usually in the region of the ileum, associated with chronic interstitial nephritis. These cases are also usually associated with pronounced diarrhea. This is very common in old people without any other signs of uremia, and if this diarrhea is mistaken, as it usually is, no improvement follows the treatment. The diarrhea sometimes stops instantaneously, and is followed by most obstinate constipation, so that operations have been done in cases of Bright's disease for a supposed obstruction of the bowel.

MALARIAL HAEMATURIA WITH ETIOLOGY, SYMPTOMS, DIAGNOSIS AND TREATMENT.*

BY M. L. WINSTEAD, M. D., WETAUG.

I do not expect to add anything new to the literature on this subject, but having practiced for fifteen years in an intensely malarial locality, where the disease is quite prevalent, and knowing that it is very rare in some localities many physicians having never seen a case, I thought some relation of my experience might be of interest, especially to the younger members of the profession.

I will mention though, here, that while I have met in late years with more than the average of success, that my treatment is not always successful, and if any one of you should meet with a case of Swamp Yellow Fever, as it is sometimes called, you will have your hands full, and most likely after you have applied all your medical skill and exhausted all your resources, both practical and theoretical, the patient will quietly slip from your hands into the great beyond. For, in my opinion, there is no disease more

*Read at the 52d Annual Meeting, Quincy, May 21, 1902.

surely fatal, if not properly treated, than a case of Malarial Haematuria.

I shall not enter into the pathology of the disease more than to say that it seems to occur as the result of profound malarial intoxication and that the malarial poison acts upon the blood and the bloodvessels impairing the integrity of both, destroying the blood discs and weakening the capillaries so that they permit the transudation of the blood elements, usually retained, and also generating toxins in the blood, hemoglobin being probably set free in the destruction of the red blood corpuscles and other poisonous substances that the overworked diseased kidneys and liver are unable to excrete. The Spleen and Liver are generally much enlarged and tender. There is also a probability of a nephritis in every case.

ETIOLOGY.

Practitioners of the Southern States, where the disease is very frequent, are much divided in their opinions as to the cause. Three theories are advanced—the Malarial, the Quinine and the Specific theory.

The first assumes that Malaria is the sole and only cause, and much evidence is adduced in support of the position. The fact that the disease occurs only in malarious localities, that there is always a previous history of malarial attacks and exposure to malarial infection, that the disease occurs only in persons who neglect to treat themselves properly for malaria, and that malarial poisons only produce the pathological conditions found in hematuria, seems to be convincing evidence in support of the malarial theory. On the other hand, there are many reputable physicians and some of world-wide fame, who claim that the administration of quinine is a most active agent in producing the disease, and that hematuria is nothing more than a quinine intoxication.

Koch, in studying the black water fever of Africa, which is the hematuria of the States, says that quinine plays a very important role in the etiology of the fever, and that in nearly all cases he failed to find the malarial parasites.

Doering of Germany, says that quinine in association with active malarial parasites, has almost always been recognized as the important provocative cause of the disease.

Other observers in the Southern States have failed to find the plasmodium malariae and are led to believe that the drug, if it does not cause the disease, is contraindicated as a remedy.

The Specific theory has not a few advocates who claim the disease is caused by a specific infection from some microbe or variety of bacteria, but I think they have failed to isolate the gentleman, or at least to prove his identity.

The Malarial theory as to cause though, is the one most generally accepted by the rank and file of the profession; men who live and practice among the people who are subject to the disease, and who base their views on close observation and practical experience gained at the bedside, and not on high spun theories and visionary deductions.

I have never known a case of the disease to occur in a person who took quinine in sufficient doses and at the proper times, to prevent or cure malaria, but in every case where the patient's history could be accurately traced, there had been a neglect of this precaution, they had not taken much quinine or were taking something else that they thought just as good.

The diagnosis is not usually difficult. The surroundings and history of the patient, the fact that he lives in a malarial locality, that he has previously suffered from malaria, the high temperature, the absence of pain during micturition, will very materially assist in the diagnosis.

We must distinguish from a hemorrhage caused by calculi, cancer, septicaemia and from the effects of drugs and poisons; but while pain more or less intense accompanies all these diseases, there is none in malarial hematuria. The urine is voided easily and often unconsciously and there will be no indications of the use of drugs.

SYMPTOMS.

There are two forms or types of the disease which I shall designate as the mild and the malignant.

The former consists of repeated mild attacks of hemorrhage from the kidneys, usually intermittent in character. There is no jaundice, or very little, the temperature never runs high and is readily amenable to proper treatment.

The malignant form, which I shall mainly consider, is usually ushered in with a chill, sometimes light, but more often of a congestive nature. There is always a history of malarial exposure, the patient has been having chills or headaches and fever, or the attack may begin without any premonitory symptoms; the temperature is high the extremities cold, the tongue dry and brown, the pulse feeble and often imperceptible at the wrists, the facial expression is anxious and there is a striking appearance of depression. The urine black, often tarry in looks and consistence and is passed in unusually large quantities, often a quart every hour, sometimes a couple of gallons in a few hours; after 24 hours the quantity is much diminished and the color grows lighter but persists for two or three days. Rarely, however, there is complete suppression of the urine, a very grave complication.

Nausea, very difficult to control, and vomiting of a bilious and even black matter occurs. Distressing attacks of hiccoughs that weaken the patient and greatly aggravate the case, are often encountered. The nausea is often so extreme that nothing will be retained on the stomach, not even a teaspoonful of water. Intense jaundice comes on in from two to six hours. The temperature may reach 106 or 107. Drowsiness and coma come on early which may rapidly increase until death closes the scene; others are conscious up to the moment of death, which may occur in from twelve to twenty-four hours. Sometimes the symptoms rapidly subside and are repeated on the following day, especially if not prevented by treatment. The patient is often extremely nervous and restless, shifting his position every moment. Should this condition continue long, it indicates a grave case and is soon followed by coma that ends fatally. If the patient recovers, convalescence is slow and tedious, being for weeks in an enfeebled and anemic condition.

TREATMENT.

The treatment is a subject which admits of much discussion, particularly in reference to the administration of quinine, some advocating the early and presistent use of the drug, and others condemning its use altogether, or at least until late in the disease. I must certainly confess that I have never been able to perceive the results claimed for it by the authors of our text books, and I am of the opinion that the practitioner who pins his faith to it to the exclusion of other more potent drugs, will lose the most of his patients. I believe quinine to be a germicide to the plasmodium of malariae, but not to the toxins they produce in the blood.

Hematuria is a toxemia, being caused by retained poisons within the circulation over which quinine has no power to eliminate. Elimination of these toxins by the bowels and the kidneys, is our first imperative duty, then afterwards, fortify the system against them by the use of quinine and other tonics.

The liver and kidneys are always found in an engorged and inactive condition from the impoverished state of the blood and will not be able to excrete the foreign matter from the circulation without assistance, and the treatment, in order to be effective, must be directed toward these organs, and what is done must be done quickly. Homeopathy and infinitesmal doses have no place in the successful treatment of malarial hematuria. Vigorous efforts should be made at once to move all offending material from the alimentary canal by brisk purgation, which will indirectly aid the action of the liver and the kidneys. Calomel and epsom salts, the mercurial in from 5 to 40 grain doses can be given until three or four doses are taken, always following with the saline. Calomel is preferred of all purgatives because it is not only one of the best antiseptics we possess, but in addition to its purgative action, has splendid diuetic properties, and because of its small bulk and weight is not easily heaved or vomited up, and combined with the salts has a good

mechanical effect also, if you will allow me the expression. It is the remedy par excellence in all severe malarial affections.

While waiting for the purgative to act, vigorous and persistent efforts should be made to counteract the congestion of the internal organs, always present. Ice should be applied to the head, heat to the feet and the circulation should be stimulated by friction to the skin until reaction sets in. As a means of precaution, 5 grains of bisulphate of quinine should be administered hypodermically, every half hour until three or four doses are given. After reaction occurs, if there is much nervous jacitation, small doses of morphia and atropia are very useful. The action of the purgative should be assisted by copious injections per rectum of warm water and soap suds or salt solution repeated every half hour until good effect.

With the above treatment, combine an active diuretic, preferably one of the potash preparations. To control the hemorrhage give spirits of turpentine every three or four hours in 1/4 to 1/2 dram doses. The high temperature should be controlled by the sponge bath. I never use the coal tar products in this form of malaria.

For the nausea, crushed ice should be given, lime water and bismuth subnitrate, to which small quantities of morphia or cocaine in solution, may be added, mustard plasters over the stomach, and I have had good results from chlorodyne internally.

Hiccoughs can best be controlled by the hypodermic injection of morphia or by Hoffman's anodyne by the mouth.

No hard and fast rules can be laid down for the treatment of these complications, we must meet the conditions as they arise. Heart failure sometimes comes on rather suddenly and when least expected; for this, the subcutaneous injection of the normal salt solution is probably as good a remedy as any. Just as soon as the bowels and kidneys respond to the medicines, begin with quinine, Fowler's Solution and tincture of iron or iron with strychine in solution, and keep up the treatment for several weeks to prevent relapses.

The diet should be restricted to easily digested foods, and stimulants of whiskey or brandy can be prescribed freely.

REPORT OF CASES.

The following cases have been selected from my case book as typical of the malignant form of the disease.

Case 1. I was called to see a little girl, aged eleven, March 18th, 1893. She was in a comatose condition, hands and feet cold, temperature 104½, pulse very fast and feeble. She had passed about a gallon of urine that appeared to be nearly all blood.

Ten grains of calomel were given dry on the tongue and washed down with water. She also had a hypodermic of five grains of bisulphate of quinine and morphia ⅛ grain. Two more doses of calomel were given followed by four doses of epsom salts, each a teaspoonful one hour apart. Five drops of turpentine were given every two hours. The next evening the hemorrhage had ceased, the temperature was 102 and consciousness had returned. She was then put on quinine, Fowler's Solution, and the muriated tincture of iron, and made a rapid recovery.

Two years later she was attacked in the same way and manner and only lived 24 hours. She had moved further away and I saw her two hours before her death; she then had a temperature of 105½ and was unconscious.

Case 2. September of the same year, was called to see a gentleman 76 years of age; he had been having chills and remittent fever during the summer and had been taking chill tonics, etc. His temperature was 104, no pulse perceptible. He had passed with his urine a small quantity of blood then had been unable to urinate more. Suspecting enlarged prostrate, I endeavored to pass a catheter but failed. Consultation was called and paracentitis was performed. The bladder was found to be full of coagulated blood that we found impossible to remove. Purgatives, diuretics, hot and cold applications were tried without effect. He gradually sank into unconsciousness and died on the fourth day of the attack.

Case 3. A gentleman 40 years of age, came under my care in October following; temperature 104, pulse 90, was slightly jaundiced and was passing blood with the urine every few minutes, and was very much frightened. He had been having chills and malarial symptoms for two weeks previously, but had had no decided rigor. He was immediately given a thorough purging with calomel and epsom salts, calomel 10 grains, bicarbonate soda 10 grains, three doses. This was followed by a tablespoonful of salts one hour apart, four doses and 20 drops of spirits of turpentine every two hours, until the hemorrhage abated. The next day he was a great deal better and was then put on Fowler's Solution 5 drops tincture of iron, 20 drops three times a day and quinine and Dover powder 10 grains of the former every three hours for twelve doses. Quinine was not given until 24 hours after first called. He made a rapid recovery and has not had another attack since.

Case 4. August, 1898, a lady 20 years of age recently married, had been having chills but had taken no medicine or very little. She was suddenly attacked by a severe chill accompanied by profuse bloody urine that was passed every few minutes. Her temperature two hours after was 106, pulse barely perceptible and extremities cold, patient was unconscious. Ice was applied to her head and her feet placed in hot bath. She was given dry on the tongue, 40 grains of english calomel one dose and washed down with water by prying the teeth open. Later, epsom salts, one large tablespoonful one hour apart, four doses and dose of calomel repeated.

Copious injections of warm water and soap suds were given. These produced large stools of a tarry looking substance. The next morning she had regained consciousness, had a temperature of 103 and pulse 110. She was intensely jaundiced and had obstinate hiccough and vomiting. After these were allayed she was put on Fowler's Solution, iron, quinine and strychnine and made complete recovery, and is now a strong and hearty woman.

The high temperature, the heroic treatment and desperate condition of this woman during the attack, are notable.

Case 5. September, 1898, a young man 24 years of age, had a violent chill in the morning and when I saw him late in the evening, was apparently suffering from maniacal excitement, whether caused by fever or fright I could not determine. He was very restless and talking all sorts of nonsense, he was every few minutes passing large quantities of blood, great drops of perspiration stood over his face and his skin was intensely yellow. His mother was charging that he had been poisoned and I was puzzled at first just what to do, but soon concluded that the poison was only malaria. I found his temperature to be 105, hands and feet icy cold, pulse hard and tense beating 140 per minute. His bowels were loose resembling cholera and his vomiting resembled the black vomit of yellow fever. He was immediately given a hypodermic of morphia and atropia and one-half teaspoonful of chlorodyne every half hour until he became quiet. Under these drugs the diarrhoea and vomiting ceased and he went quietly to sleep. He was then given a mild course of mercurials with quinine, turpentine and as a diuretic later, the bitartrate of potash with lemon juice. The next evening at six o'clock he was rational with a temperature of 103 but obstinate nausea; hemorrhage had about ceased. I then turned him over to a physician from Arkansas who had some experience in the treatment of the disease, but he died two days later. Do not know just what treatment was continued.

Case 6. Two weeks later another young man, a neighbor to the last one mentioned, and the son of a railroad contractor, was taken in about the same manner. I first saw him at two o'clock P. M. and met a priest coming out of the house who had just administered the last sacraments to the patient, as he was supposed to be dying, the parents never having seen anything of the kind.

He had passed about two gallons of dark tarry looking blood. He was totally un-

conscious, had a pulse of 145, temperature of 105½, head hot and feet and hands icy cold. His teeth were pried open and 40 grains of calomel placed dry on the tongue and washed down with water, and all the epsom salts at the same time that we could get him to swallow. Ice was applied to the head and over the region of the bladder, his feet were wrapped in hot blankets and large injections of soap and warm water made. During the night his bowels moved freely, he regained consciousness and the next evening, aside from his intensely yellow color, he looked to be doing as well as if he had only had a common ague. His later treatment was quinine, iron, strychnia and arsenic and he made a complete recovery.

In his case, no quinine was given until after evacuation of the bowels and the return of consciousness.

Case 7. A week later a young married man, neighbor to the last two, was taken with symptoms of a congestive chill accompanied by profuse bloody urine. When seen six hours after, his temperature was 105¾, pulse 144 and semi-conscious and the skin had already assumed a very yellow cast, the color was not an orange yellow but of a sickly greenish hue. He was given twenty grains of calomel, three doses, one hour apart and four tablespoonfuls of epsom salts, and one drachm of spirits of turpentine every three hours, no injections were used. The next day his temperature recorded 102, pulse 120. There was very obstinate nausea and the hemorrhage though less, still continued. Gallic acid was added to the treatment and lime water with solution of muriate of cocaine given for nausea. The hemorrhage continued for three days gradually growing less as the other symptoms abated. Twelve hours after the beginning of the attack he was put on quinine 5 grain doses every three hours with dover powder in capsule and hydrastine. This treatment continued for three days. He made slow but complete recovery and has not had another attack, now over three years since.

Case 8. September, 1900, a school teacher, male, aged 40 years was attacked with a congestive chill followed by active hemorrhage from the kidneys. I did not see him until the next day but he was treated the night previous with calomel purgation and large doses of quinine. At the time I was called I found his temperature 105, small very weak pulse and dark bilious discharges from the bowels, and large quantities of bloody urine were passed at intervals of one hour. He was intensely jaundiced. He was put on a mild course of mercurials, quinine, turpentine and tonics. After two days the hemorrhage had ceased entirely, the temperature was reduced to 101 and convalescence seemed fairly well established, but from this time on he sank into a low typhoid state, refusing all nourishment and died on the 18th day of his illness. He lived eight miles from me and I think needed more medical attention than he was able to secure.

Case 9. October, 1900, a young lady aged 18 years, had been having chills every day for a week. She was suddenly seized with an alarming hemorrhage from the kidneys seen a few hours later she was totally unconscious, ice cold extremeties, temperature 106, no pulse perceptible. Ice was applied to the head, hot smoothing irons to her feet and a hypodermic of quinine, bisulphate and morphia given, also dry on the tongue and washed down with water, 20 grains of calomel and all the epsom salts she would swallow. This dose was repeated twice, three hours after injections per rectum caused discharges resembling tar at first, as soon as purgation was established her symptoms began to rapidly abate though there was intermittent hemorrhage for four or five days and convalescence was quite slow. After the sixth day her skin had cleared of the jaundice and her appetite had returned sufficiently to relish nourishment. I discontinued my visits on the eighth day as no longer necessary. On the tenth day she had another chill and a violent hemorrhage and died before medical help could be obtained. This case shows the proneness of the disease to return and the importance of continuing active treatment until all danger is passed.

Case 10. October, 1900, a young lady 16 years of age, had been having light chills for a month but being willful and allowed her own way, had refused to take any kind of medicine. She was taken with a chill in the morning and when seen at five o'clock P. M. had a temperature of 106, no perceptible pulse and was entirely unconscious. Ice was immediately applied to the head, 20 grains of calomel were given dry on the tongue by prying open the teeth, which dose was repeated in two hours with epsom salts and injection per rectum with warm solution; cold sponge baths were used n the surface of the body and hypodermics of quinine and morphia. The next morning she was better but at 5:00 P. M. she had a temperature of 105 and was still unconscious, with intense yellow color, a moderate hemorrhage had continued that was voided unconsciously with the urine from the beginning of the attack.

Ice was then applied over the region of the bladder and small doses of calomel combined with quinine and dover powder were prescribed, and ten drops of spirits of turpentine every three hours. The next day her temperature was 102 and pulse 98, and she made a rapid and complete recovery from that time. She was kept on quinine and arsenic and iron for one month.

The peculiarity of this case was the resemblance to acute meningitis as a complication and the length of time the patient was unconscious.

THE TECHNIQUE AND POSSIBILITIES OF ENDOVESICAL OPERATIVE PROCEDURES.*

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Bottini operation and the catheterization of the ureters have been extensively discussed in the past few years. Strictly speaking, these procedures do not belong to the class of operations under consideration, and for this reason I will not discuss them, but will confine this paper to those operative interferences which are performed inside the bladder, under the guidance of the eye, without any previous cutting operation, which is done for making the interior of the bladder accessible. In other words, operations which can be performed with the aid of instruments, which allow of the inspection of the affected areas of the bladder wall, and at the same time admit of the introduction of mechanical appliances which are used for the different operative procedures. These systems of instruments are called operative cystoscopes. Three distinct types of instruments are distinguished from each other.

Not to go into detail, but simply to mention their important points, and thus show their differences, it will be necessary to enumerate:

1. Nitze operative cystoscope. Here the lamp, prism, and window are on the concave surface of the beak. In front of the space between the lamp and the window the operative appliances are placed; in fact, the operative appliance carries in its hollow shaft the optical apparatus. The latter is movable so that the operative appliance can be brought to different distances and positions from the cystoscope part. These mechanical appliances are galvanocaustic snare, cautery, small forceps, and lithotriptic forceps.

2. Casper operative cytoscope differs from the Nitze cystoscope in that the lamp, window, and prism are on the same plane, so that the whole optical apparatus is straight. The operative part is practically similar to the Nitze.

Both of these cystoscopes compel the operator to work under indirect vision.

3. Kolischer operative cystoscope. With this cystoscope the operator works under direct vision. The lamp and window are situated on the convexity of the break. To the under part of the cystoscope is attached a canal, through which the different instruments are introduced into the viscus. Their working end appears just below and in front of the window.

Considering the merits and demerits of these types, it may be stated that the beak

* Read at the 52d Annual Meeting, Quincy, May 21, 1902.

of the Nitze instrument is somewhat bulky and clumsy, because in the beak the operative appliance and lamp are in contact, and must be introduced together. This is avoided in the Casper instrument, as the mechanical appliance is first independently introduced; furthermore, the canal of this part is wide enough to allow of thorough flushing of the bladder between the operative stages. On the other hand, the Nitze instrument is more simple, so far as its mechanical settings are concerned. Both instruments have the drawback that the operative beak covers, to a great extent, the field of operation. It has to be admitted that these two types, by permitting of the use of powerful instruments, allow of very energetic and extensive procedures.

The Kolischer cystoscope has the advantage of direct view, and that, in consequence of its construction, the working end of the mechanical appliances does not interfere with the clear view of the field of operation. Another advantage is to be found in the variety of instruments. While this instrument also allows the use of both galvanocautic snare and cautery, it is the only operative cystoscope which permits of the use of curettes, scissors, forceps used for picking up and removing small foreign bodies. But in order to keep the circumference within reasonable limits, it has but a small lumen, so that the usefulness of this instrument is somewhat limited by the small dimensions of the mechanical appliances.

I refrain from giving a minute description of the details of construction, which can be more readily understood by examining the instruments I wish to demonstrate.

In passing, it is best to mention that Mirabeau and Latzko constructed small appliances which can be introduced into the bladder independently of the cystoscope, and used under the control of the cystoscope. The limited usefulness of these devices is further reduced by the fact that they are only to be used in the female bladder. The same holds good of the Kelly instruments, which do not approach the perfection of the modern cystoscope.

An important question is the one of anesthetics, because a large number of individuals having bladder affections have also kidney diseases, and for this reason it is best to avoid general anesthetics, if it is possible.

It is a fact that most of these endovesical operations can be done under a carefully given local anesthetic. The correct application of a local anesthetic is a necessity. It is best to state at once the great danger of cocainization of the bladder. As a local anesthetic, a highly concentrated antipyrin solution is to be recommended. It must not be forgotten that it requires ten minutes or even longer until antipyrin gives the desired effect, hence must be done at the proper time. The urethra should be anesthetized by cocainization. While it is easy to do this within the pendulous urethra, it is best to apply cocaine into the posterior urethra with the Ultzman capillary catheter. After injecting along the entire urethra, the external urethral orifice is held fast to prevent the escape of the cocaine solution, and the entire urethra is massaged, so as to bring the solution into intimate contact with the mucous membrane of the entire urethra. The disagreeable sensations in the prostatic urethra, caused by the stretching of the deeper layers, cannot be overcome by the superficial cocaine anesthesia, but must be overcome with a morphine and atropine rectal suppository.

Previous to any operative step, it is advisable to have the bladder in as good a condition as it is possible to bring it with the usual irrigations, instillations, and internal medications. This procedure not only makes the bladder less sensitive, but also brings the localized centers of the pathological changes into prominence.

One of the most frequent indications for this method of treatment is the stubborn cases of cystitis. Under this is comprised not only the inflammation of large areas, but also small localized inflammations, as fissures, ulcerations, and remnants of cystitis, where the adjacent parts are free from pathological changes. Granulating cystitis is not an uncommon condition, and I wish to state most emphatically that these cases do not

respond to the ordinary treatment, but require surgical intervention. The method of procedure is to remove these granulations by curettement, and the method of choice is with the aid of the operative cystoscope. The subsequent hemorrhage is, as a rule, exceedingly slight. If of any severity, nitrate of silver irrigations will cause it to subside. It is my routine to inject, and to leave in, iodoform emulsion after such curettage, on account of the antiseptic and soothing effect.

Fissures which, if located in the bladder neck, cause very annoying symptoms can readily be healed with a single treatment consisting of an energetic cauterization.

A very important chapter to vesical diseases is the ulcer which follows a gonorrheal cystitis. The frequency of these and the importance of their treatment have become more recognized since systematic cystoscopy has been practiced amongst genito-urinary surgeons. The coating and the granulations which cover it must be thoroughly curetted, and prompt cure follows. It has become recognized that patients of this class can be treated for years without any results, and one single treatment with the operative cystoscope will cure these individuals.

The standpoint of the endovesical operator toward tumors of the bladder should be carefully discussed. Nitze claims that even malignant tumors ought to be operated with the operative cystoscope, pointing out that definite results even after suprapubic cystotomy and extensive resection are far from satisfactory, and that even large malignant tumors can be removed by the galvanocaustic snare, down to their bases. This standpoint is certainly not approved of by the large majority of surgeons. Under our present view malignant tumors will always call for radical operations after cystotomy. It must be mentioned, however, that if these cases are beyond operation, or refuse such a step, an endovesical cauterization often gives great relief, especially after necrosis has set in. This interference can be repeated, if necessary. I think the proper limitation for the operative cystoscope in cases of tumors is furnished by the following points: The tumor should show no signs of malignancy; it should not be so large as to interfere with the ease of manipulating the cystoscope; it ought to be pedunculated, although it has to be admitted that even tumors with a large base can be removed, in sections with the operative cystoscopes. It is remarkable how large pieces can be removed by the evacuator, by first cutting them with cystoscopic scissors. There are benign tumors which become encrusted to such an extent that they cannot be operated with the operative cystoscope, for they are too hard, but must be removed by resection of the bladder wall.

Nodular varicosities of the superficial veins, which give rise occasionally to severe hemorrhages, are easily removed by cauterization with the galvanocautery.

Small foreign bodies and immigrated ligatures, needles, and hairpins have been repeatedly removed by means of the operative cystoscope. Foreign bodies of some considerable size should not be thus removed, on account of the unnecessary traumatism.

The operative cystoscope plays an important role in the after-control of litholapaxy. The cystoscope makes possible the minute and exact supervision of the bladder, and the small lithotriptor or forceps of the operative cystoscope is a reliable means of crushing small splinters and removing them. The latter procedures are more important if the sharp splinters become embedded in the bladder wall. This condition is very dangerous, because of the imminent possibility of perforation and suppuration, while even a powerful pump will not remove them.

Although I have given but a short sketch of the more important operative interferences, I hope it has been of sufficient detail to impress all with the advantages of these procedures. I have attempted to give the fairly exact limitations, and have not been too enthusiastic in advocating its general adoption.

Discussion.

Jacob Frank of Chicago: Mr. President—I have been much interested in Dr. Schmidt's paper in regard to the use of the cystoscope. He has given us the bright side of the cystoscope, but it has also its bad side. Of course, this instrument in the hands of a specialist, who uses it daily, is more useful in his hands than it would be in the hands of a general practitioner. I will say this much, that it is a good

instrument and ought to be a part of the surgeon's armamentarium for diagnostic purposes. But it is not a good thing to use in every case. For instance, the anterior part of the bladder cannot be manipulated with any of these cystoscopes, especially with the Kolischer cystoscope, which, I believe, is a modification of the Nitze cystoscope. The Kolischer cystoscope reflects the light from the operator, and after it is introduced into the bladder it can be seen that the anterior part of the bladder cannot be brought under the direct view of the eye, and any of these straight cystoscopes will not answer the purpose, so far as the anterior portion of the bladder is concerned. With the Nitze and Casper cystoscopes, observations cannot be made of the entire trouble. The same difficulty arises, again, in removing tumors or in curetting the anterior part of the bladder. Another objection to the operative cystoscope is that when one draws the little blade it covers the field of the prism, which shuts off the light. For minor operative procedures in the female, I do not think there is anything that can take the place of the Kelly cystoscope.

Dr. Schmidt (closing the discussion): I did not have much to say in regard to the Kelly instrument. The most of my work has been confined to the male bladder. Of course, the Kelly instrument can be used in male cases, but from the standpoint of work, the instruments I have mentioned can be used with greater ease on the part of the operator and with less trouble to the patient.

THE ADOLESCENT GIRL.*

BY RHODA GALLOWAY YOLTON, M. D., BLOOMINGTON.

Many of the individual constituent parts of the body are capable of reproduction. They can give rise to parts like themselves or they are capable of regeneration, i. e. their places can be taken by new parts more or less closely resembling themselves. The elementary tissues undergo, during life, a very large amount of regeneration—thus the old epithelium scales which fall away from the surface of the body are succeeded by new scales from the underlying layers of the epidermis; old blood corpuscles give place to new ones, worn out muscles or those which have failed from disease are renewed by the accession of fresh fibres; divided nerves grow again; broken bones are united; connective tissue seems to disappear and appear again almost without limit, and new secreting cells take the place of old ones which are cast off.

* Read before Woman's Club of Bloomington.

The regeneration by substitution of molecules which is the basis of all life, is accompanied by a regeneration by substitution of mass.

In the higher animals the reproduction of the whole individual can be effected in no other way than by the process of sexual generation.

We have the different phases of life. Dentition marks the first epoch of life. A characteristic of the nervous system in childhood, the result probably of the more active metabolism of the body, is the necessity for long or frequent and deep slumber. Shortly after the conclusion of the permanent dentition, the occurrence of puberty marks the beginning of a new phase of life. Adolescence means youth or the period between puberty and maturity and in the girl is usually reckoned as extending between the ages of twelve and twenty-one years.

A study of physiology teaches us that all the so called vital organs, which means those having to do with the continuance of individual life, are functionally active from birth until death, but the group of organs functionated for race continuance, remain small and inactive throughout infancy and childhood.

During these years sex distinction is not marked except in the character of the sports; the impress of the latent sperm cell manifesting itself in greater aggressiveness and egoism in the boy, while the dormant germ cell very early sets the maternal stamp upon the brow of the tiny maiden in the love and care for dolls.

But as the twelfth or fourteenth year approaches there is a marked change in the appearance and characteristics of both the boy and the girl, so great a change that some one has said "We are born twice, once to exist—again to live."

When menstruation appears the girl at once becomes a woman. The girl's pelvis and abdomen enlarges, but the whole frame remains more slender, the muscles and joints are less prominent, the limbs more rounded and tapering than in the male. Locally both external and internal organs undergo a considerable and rapid enlarge-

ment, the mammae enlarge, the ovarian vesicles become dilated and there is established a periodical discharge of one or more ova accompanied by a sanguineous fluid from the cavity of the uterus. These changes so varied and extraordinary often occur within a very short space of time and as they are liable to serious derangement in the girl, great care should be taken to secure for the individual the most favorable conditions until they are successfully effected.

Puberty is literally a physiological second birth by which a new and changed creature is given life, for not only is there a changed physical appearance but the mind, the heart, the soul, all are affected by the subtle something which comes from the growth and development of those organs whose function it is to cradle the race.

Puberty occurs earlier in girls than in boys and earlier among the inferior races, like the Africans, than among civilized nations. Habits of vigorous physical exercise tend to delay puberty. For this reason, together with others, country boys and girls generally mature later than those living in the city by several months. Anything that tends to excite the emotions hastens puberty. The excitement of city life, parties, balls, theatres, even competition of students in school and the various causes of excitement to the nervous system, which occurs in city life and sensational novel reading and a sedentary luxurious life, have a tendency to hasten the change which awakens sexual activities of the system into life.

Hence these influences cannot but be considered prejudicial to the best interests of the girl, mentally, morally and physically since it is in every way desirable that a change which arouses the passions and gives to them greater intensity, shall be delayed rather than hastened.

At this period there is a greater influx of strange sensations—the brain aroused by new stimuli is increased in activity.

The adolescent mind is filled with hopes, dreams, temptations, passions and new ideas. There is a great increase of vitality and energy as is manifested by the rapid growth and it is hygienic for the more strictly physical to take the lead at this time, just as in childhood physical development should take precedence since undue mental stimulation from too difficult studies causes arrest of development. So at adolescence the advent of puberty should not be hastened nor should a mental storm stress period be precipitated by disturbing philosophic and religious instruction.

It is evident that there is a great evolution of energy that must find expression in some way. It also is clear that at this period education must no longer be mere acquirement. It is the time for manual training, for laboratory work and sports. Girls have suffered more than boys by neglect of active education and it is not strange that so many girls grow up into suffering womanhood, when we consider the manner in which this physical second birth takes place. It is rare indeed that intelligent suggestion or wise words of counsel tell her of the importance of the period of maturity.

Usually if she thinks of this period at all it is simply as an incident, not as an epoch which is to stamp her whole future earthly existence with weal or woe.

The importance of this period cannot be overestimated and when this becomes a generally recognized fact we may begin to look for a healthier, happier, more beautiful womanhood and not before for it is during this period that the future health of the woman is largely made or marred.

It would seem therefore to be of the most vital importance that a maturing girl be given such care and training as would insure her proper physical development, without which her life cannot be a success in the fullest sense of the word. The parent and physician cannot fail to have noticed the great number of unhealthy girls after the age of pubescence.

During the period of infancy and childhood the boy and girl are liable to the same class of physical disorders and with an equality of heredity and environment the girl is not more susceptible to the diseases of children than the boy. After the period of puberty is reached there is a marked difference in the comparative health of the maturing boy and girl. That this differ-

ence of health rate is dependent wholly on difference of sex is doubtful.

As puberty approaches the character of sports and amusements of the two sexes become more and more diverse. For many times fond but foolish mothers in their efforts to have their daughters form habits which indicate good breeding, repress the childish desire for activity and instead of permitting romping games in the open air after school hours, the girls are encouraged to sit quietly with their dolls, books or music while their irrepressible brothers exercise their muscles and improve their circulation by out of door games and occupation. Ignorance of bodily construction and function also permits many indiscretions which indirectly but certainly invite the penalty of violated law. Ignorance permits many young girls to needlessly expose themselves to changes in the weather, insufficient or damp clothing is worn and the feet allowed to remain cold or damp at those times in the month when the greatest care is necessary to prevent physiological congestion of pelvic organs and thus the foundation of future ill health is speedily and silently laid. There is no knowledge which is so necessary a part of her stock in trade as that which will help her to become a healthy, well developed woman and keep her so.

Education is a causative factor in the prevalence of ill health among girls. It is a physiological law that the growth of an organ is dependent on its blood and nerve supply. It is also a physiological law that the organ or organs in most active and constant use demand and get a greater nerve and blood supply than the inactive or passive ones. At the approach of puberty therefore the maturing uterus and ovaries require more attention from the circulatory and nervous system than previous to this time else growth cannot be accomplished.

But our modern system of education begins to impose the necessity of greater and more constant mental application between the years of twelve and eighteen, and what is the result physically? The brain because of its continual use necessarily calls for a surplus of blood while the inactive but feebly maturing pelvic organs are left with but a minimum for their development. In short they are starved for want of proper nourishment and cannot grow as nature intended and we have non-development. These organs are dwarfed and inactive and consequently complain in the language of pain and distress for another physiological law teaches us that the undeveloped organ is much more liable to disease than one in which development is complete.

It is not difficult to understand therefore how ignorance of physical law coupled with the overcramming methods of education make possible the wrecking of so many beautiful physiques. The government has made the acquirement of a so called common school education compulsory with all children over a certain age and on all sides the greed for knowledge is only exceeded by the universal greed for gain. The purpose of an education is simply a process of mental drill and discipline which will enable a student to broaden his life's horizon and pick up applied knowledge later on—or it is for the purpose of acquiring such knowledge as will enable him to not only appreciate the good, the true, the beautiful in life but to become a useful, helpful member of the native family. Yet only a small per cent of the children who are to be the future men and women, will ever be able to obtain more educational opportunities than the public schools afford. Hence it is upon the public school system even more than upon the higher centers of learning that the weight of responsibility rests in directing both mind and body into useful, healthful channels. So far as our present methods of education are concerned with the mental and physical development of maturing girls, it can be truthfully said that she has the opportunity of becoming more or less familiar with almost any subject except herself and those things which are to occupy a large share of her adult life. She has excellent opportunities for learning about the formation, habits and peculiarities of flowers, beetles, birds and animals, but when it comes to any scientific instruc-

tion regarding her own formative function and care, only the most limited and carefully perused information is usually available. When her high school or college course is ended she, in many cases lacks a physique robust enough to become a teacher or home maker.

We all know too many cases where the young graduate dies before she has fairly rested from her long hard pull of final examinations. No false modesty should be allowed to debar any pubescent mind from acquiring the same dignified, scientific, classified instruction regarding body function and the laws of life—as is now considered proper regarding the lower animals and allied subjects.

The chemistry of food stuffs with a knowledge of their proper combination or a thorough understanding of house sanitation, heating, ventilation, sewerage, and cleanliness is of more importance than a few months training in inorganic chemistry or a knowledge of some dead language.

There are many other causes of ill health of which I can mention a few. Dress is an important factor in the cause of disease.

Normal breathing of woman is like that of man—abdominal. Waist constriction changes the type of breathing to thoracic.

Abdominal respiration is essential to woman's health. Clothing must be worn that does not restrict it. All women who wear corsets and tight waist bands breathe with a well marked sternal movement. The costal or thoracic respiration is abnormal in women as it is in man. Kelly has confirmed the observation among various Indian tribes and among Chinese women, agricultural women and English pit brow lassies; and civilized women who have always been loosely clothed about the waist show the same type.

Women asleep breathe like men, and male and female animals alike and the very argument that chest breathing is normal to woman because it is necessary during gestation falls to the ground when it is shown that even late in pregnancy abdominal respiratory movements predominate over thoracic movements.

The agent most active in abdominal breathing, the diaphragm, is a muscle that can be developed like any other muscle so that long distance runners in the quiescent condition have least costal breathing of all men. The constant to and fro motion of the pelvic organs is essential to their health. With each movement of the diaphragm the structures of the pelvic floor and the organs above it are carried downwards, one-tenth to one-third of an inch and up again in the case of women who have worn clothing loose about the waist. Alternating pressure and relaxation secure free flow through the large venous plexuses and lymphatics. Alternating traction and relaxation develops the muscular bundles of the uterine ligaments and of the muscular pelvic floor.

The alternate stretching and slacking strengthens elastic supports. As in any other part of the body, exercise is needed, rest and motion in right proportion and the organs themselves need it as much as their supports and blood vessels do.

With each inspiration the descent of the diaphragm increases the pressure in the abdominal cavity and lessens that in the chest, blood is squeezed out of the pelvic and portal veins, at the same time sucked up above the diaphragm.

Therefore dress that cripples the diaphragm, slows pelvic circulation. The valveless ovarian veins empty in the area of greatest corset pressure, giving a long and perpendicular column of blood to be dammed back.

When the corset is worn, little or no motion can occur because all structures in the true pelvis are carried down by constant pressure to the utmost of their ability to move in that direction. The uterus cannot make its excursion of a tenth to a third of an inch with each respiration. The clothing must not displace the pelvic organs. The pressure from a tight corset or a loose corset with the wearer in a bent position bulges the pelvic floor downward to the utmost limit of its capacity to yield.

The uterus is correspondingly depressed. Consequently all its supports are stretched and kept tense for many hours daily while any exertion or stooping strains these taut

structures still farther. In consequence we have pelvic inflammation and misplacements. Activity and exercise are essential to health. Clothing must be loose, light and well hung not to hamper muscular action.

The house habits of girls, the lack of participation in active sports, the imperfect muscular development and the sluggish peristalsis have an important effect in the ordinary methods of dress.

"Look at a lot of girls on the way to the gymnasium," said a Vassar teacher. "They drag along, they have no spirit or spring in them, they are in their ordinary clothes. Look at the same set coming on to the gymnasium floor in their light toggery—they skip and dance and run in the liberty of their unrestrained and untrammeled motion —they are different beings."

To remove corsets and leave the girl to the constriction of her waist bands, and heavy skirts hanging on the abdomen is of little use. In college where girls are readily reformed, a physical culture teacher says the trouble lies principally with the mothers. "Tell my girls that tight lacing will hurt their complexions," said a school principal, "and you have a lever." It is an important fact that in the early periods of the history of the human race there were no essential points of difference in the dress of the two sexes, except perhaps in the way of wearing the hair. Roman men and women for instance, wore pretty nearly the same kind of external garments. A plate in Planches History of Costume represents a group of Anglo-Saxon men and women of the tenth century, and it is difficult if not impossible to tell which of the figures represent men and which women.

The traditional fig leaf was the same for both sexes and from it were evolved skirts that varied but little in shape and general appearance, whether they concealed the nakedness of a man or that of a woman. The differences that now exist have mainly been caused by the revolt of man from the inconvenience of long skirts, and the assumption by him of a separate covering for each leg. What he has gained in the facility with which he can run, leap, climb trees, straddle a horse, row a boat and do many other things that his occupation requires of him, he had certainly lost in grace and elegance. Trousers are of oriental origin and in the form of breeches were worn by the ancient Gauls and Britons.

They went out of fashion however soon after the occupation by the Romans and the gown acquired its place for both sexes.

Constipation is a prevalent disorder among girls. It is the result of improper diet and sedentary habits but is quite as frequently the effect of neglecting to evacuate the bowels at a regular hour each day, which is essential to proper and regular action. Constipation gives rise to congestion of the pelvic organs and to displacements by violent straining. Neglect to care properly for themselves at the menstrual period either through carelessness or ignorance of the consequences is probably one of the causes of uterine or ovarian disorders of the adolescent girl.

I have known of girls who complained of sick headache and lack of appetite and yet are mincing most of the time between meals, at candy, soda water and all sorts of confection. Their digestion is destroyed. It is no wonder they have no appetite for a substantial meal. The digestive organs like all other organs must have a period of rest.

The most beautiful face is marred when disease begins its ravages on the body. The most beautiful character is as speedily spoiled by the touch of moral disease. The face is the mirror of the mind. The character is written as plainly on the face as the face can be pictured by an artist on canvas. To be more explicit, the girl who disregards the laws of health, who eats bad food, eats at all hours or at unseasonable hours, sits up late at night, and indulges in the usual means of dissipation and neglects to comply with the requirements of health may be certain that sooner or later at no distant day she will become as nonattractive and homely as she can wish not to be. The cheeks may be ever so plump and rosy but they will certainly loose their freshness and become hollow and thin.

All little girls want to be beautiful. Girls in general care much more for their

appearance than boys. They have finer tastes and greater love for whatever is lovely and beautiful. A pure, innocent, beautiful little girl is the most lovely of all God's creatures. Health is essential to beauty. In fact if we consider goodness a state of moral health, the health is the one great requisite of beauty.

Health is attained and preserved by the observance of those natural laws which the Creator has appointed for the government of our bodies.

HYDRO AND ELECTRO THERAPY IN THE TREATMENT OF DISEASES OF THE ALIMENTARY TRACT.*

BY E. M. ECKARD, M. D., B. S., PEORIA.

In these days when cults and pathies have sought to take away prestige from the Regular School of Medicine, we are apt to shun those means of treatment which these people use to gain their nefarious ends. We are too fearful of adding our endorsement to the remedies which are used with such abandon and grossness as to bring them into illrepute. And yet we must admit an element of truth in all these pretensions else they could not live. Because an imposter tells the people he can diagnose all diseases by means of the X-Ray shall we discard it? Because another says that Sulphur water will cure Syphilitic and other blood diseases shall we discard the use of Medicated waters? Again the people have been forced in self protection to demand freedom from continual drugging. They are looking for other and simpler means of cure and we should be the ones to apply those means not others ill-prepared. Many of those chronic cases which have been to numbers of good physicians finally land at a Sanitorium as a final resource, and are greatly benefitted by means of properly administered Hydro and Electro therapy in connection with diet and proper exercise. It is because of this that I am led to talk on this subject.

There are many diseases of the Alimentary tract to which Hydro and Electro therapy are applicable, among which are Acute and chronic constipation, bowel obstruction, Auto-intoxication from absorption of intestinal toxins, diarhoea, dysentery: Dilatation and neuralgia of the stomach, chronic Gastritis, gastralgia as well as the various neuroses such as visible peristalsis, flatulence, enteralgia, and intestinal neurasthenia.

The use of electricity in the treatment of intestinal diseases is from its very nature limited, and experiments have not been very profuse along that line. That intestinal movements can be produced by the electric current is easily proven by observation of the effects in subjects with thin walled abdomen. There has been some argument also as to the proper current, some advocating the galvanic some the faradic and yet others the mixed current. There seems no doubt that both currents are useful but the faradic seems to me to be most frequently indicated. The two alternated are best used to create peristalsis. In regard to the galvanic current, experiments by Schillbach indicate local waves of contraction at the Cathodal end and peristaltic waves of contraction at the anodal end. I have several times seen immediate movements of the bowel follow the application of the faradic current one electrode on the abdomen, the other in the bowel. I at first thought this due to the irritation of the electrode, but as the same result was not obtained without the current I concluded the electricity was responsible. I should add that in a number of cases this means failed to create sufficient peristalsis to cause a movement without the softening influence of the douche. In cases of impaction the abdominal sponge should be about two inches wide and should be applied with respect to the anatomy of the tract and at a point above the accumulation; while the internal electrode which is shaped like a rectal tube having a spiral connection leading through the tube and emerging as a smooth, rounded point at the distal end. This may also be perforated and a stream of water allowed to play through it during the treatment which should last about 15 minutes. The current should be applied strongly enough to produce contractions of

* Read at the 52d Annual Meeting, Quincy, May 21, 1902.

the abdominal muscles. In applying Galvanism, the anode is placed by means of a broad sponge on the abdomen and the cathode inserted in the rectum; the treatment should be of about ten minutes duration and of strength about 20 milliamperes. The results of the treatment are not immediate but a movement of the bowels takes place in from two to four hours. The cases on which I have used this treatment were chronics of months or years standing and I want to say that in addition to the mechanical effect the mental effect is also commendable.

Electricity is of great value in sensory and motor neurotic disturbances of the tract, and in these neuroses the Static breeze given daily for 15 to 30 minutes proves a valuable adjuvant, relieving the nervous tension and causing the patient to "let loose of the bowels" if you please.

In dilatation of the Stomach, the introduction of an electrode into the stomach and the application of galvanism has been highly commended. It is easily accomplished in patients who have become used to swallowing the stomach tube. Several kinds of stomach electrodes have been devised the best and most easily swallowed being one devised by Einhorn upon somewhat the principal of the stomach bucket being olive shaped, of perforated hard rubber and containing a metal button. This is attached firmly to an insulated wire. The electrode being much like a large capsule is not difficult to swallow. A quantity of water is first swallowed, contractions being brought about through electrization of the water. It is very doubtful if the external application of either current over the abdomen has more than a slight effect upon the contraction of the stomach or bowel, but used internally it not only increases peristalsis but causes a modification of the flow of gastric juice. Both of these facts have been sufficiently proven by many experiments both upon men and animals. The method of application of galvanism which we have followed is placing the negative pole within the stomach and a medium sized sponge externally at different points over the stomach for periods varying from one to three minutes giving the last two minutes of a ten min. seance above the seventh dorsal vertebra. In Gastro-faradization use a large sponge and let the general movement be from left to right, the current being of sufficient strength to cause contraction of the abdominal muscles but not strong enough to produce pain.

Einhorn sums up the physiological and therapeutical action of electrization of the stomach as follows:

1. Direct faradization of the organ increases gastric secretion during and for a short period after treatment.

2. Direct galvanization of the stomach negative pole within usually decreases secretion.

Therapeutically direct gastro electrization is potent in chronic diseases of the stomach non-malignant in character. Useful in dilatation not complicated by obstruction. In relaxation of the cardia or pylorus, the former being disagreeable on account of eructation of gas, is well treated by electrization direct. It is the sovereign remedy in gastralgias no matter what their cause, favorably affecting the heart as well.

In intestinal disorders Hydrotherapy is of even more value than electricity. The simple drinking of large quantities of water aids much to clear the intestine of obnoxious material, mucous and bacteria. Various mineral waters may be selected from those at our command but oftimes pure water of any kind will answer all purposes if persisted in doing fully as well as that from the various natural springs. There are some waters which have a tendency to diminish secretion, but most have an opposite effect, increasing secretion and peristalsis. Other hydrotherapeutic measures are moist applications, cold to stimulate and hot for sedative effect. Combined with electricity water is a most potent agent. Where there are neurotic conditions governing the intestinal disturbance, the use of baths and douches are of extreme value; especially is intestinal neurasthenia benefitted by the combined treatment. In treating habitual constipation the use of cold enemata with cold local application to the abdomen will aid peristalsis wonderfully. Alternating hot

and cold douches to the abdomen will have an even more pronounced effect.

Lavage of the stomach was first rationally used by Kussmaul in 1867.

You are all familiar with the usual manner of performing this treatment, but the most satisfactory manner of lavage is to use a graduated glass irrigator which may be hung on the wall. The irrigator is attached to a tube having a glass "V" connecting the stomach tube to the inflow and an outlet tube. By means of snaps the washing out process becomes very simple and satisfactory. Einhorn has devised a stomach spray which he claims is valuable in applying medicines of a toxic or irritant character besides washing the stomach thoroughly. Lavage is contra-indicated where there is hemorrhage or ulcer of the stomach.

It should be borne in mind that organic disease of the intestines often has for its origin a neurosis just as cystitis may develop from a paralysis. Neuroses of the intestine may result in or exhibit motor, sensory or secretory disturbance. In cases of functional enteroplasm and protoplasm it is imperative that cold applications be made externally and cold douches be given internally in addition to the other means used to allay the condition. In the same manner the general nerve toner should be built up with tonics of which balneotherapy is one of the most efficient and doubly valuable when aided by electricity.

Of course hydro and electro therapy should not be used to the exclusion of drugs and other valuable remedies such as massage, mechanical movements, diet, etc., but they are the most valuable of all adjuvant agents in the treatment of the above mentioned diseases.

A large amount of literature has been written upon the value of electricity and water in the therapeutical field but most of the writings have been for purposes of advertisement of institutions and for sensational effect. A few men have given us the results of their honest efforts and have accomplished many cures. I have recorded a few cases two of which I wish to quote.

Case 1. Man aged 50 years, life ins. officer. Syphilis; 20 years before attacked with all symptoms pointing to impaction of bowel. All sorts of purges and injections of water, oliveoil, castor oil, soapsuds, etc., first tried, then high rectal injections with no result. After 12 hours vain efforts inserted electrode with douch and gave 15 mins. of electricity beginning above and leading down to the obstruction; result in movement of the faecal mass down to the rectum where it was easily handled.

Case 2. Man aged 45, great eater and drinker, symptoms of dyspepsia, patient ravenously hungry at times. Losing weight. Examination showed digestive fluids diminished. Fermentation taking place. Constipation. Scanty urine. Presented a large abdomen and had a dilated stomach. Treatment was lavage, leaving some water in the stomach and introducing Einhorn's deglutible electrode. Treatment; daily use of faradic current for 15 mins. In addition gave a digestant after meals and as a laxative left half pint of glycerine water in bowel over night. Treatment lasted three weeks and resulted in a complete cure as far as the symptoms were concerned. I am perfectly satisfied that there is a wide field of usefulness for electricity in these conditions and believe their use should be more frequently resorted to.

CONCERNING A NEW SERIES OF SYNTHETIC SALTS; THE NUCLEIDS OF IRON, COPPER, MERCURY AND SILVER.*

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Compounds of Mercury, Silver, Copper and Iron have been employed since the earliest times, in Medicine, but our information as to their effects on diseased conditions in the human body has been decidedly hazy. Therapy, unless it be of quite recent institution, is empirical and founded on conjecture; but the trend of modern medicine is in the direction of rational therapeutics,

*Read at Meeting of the Chicago Medical Society May 7, 1902, and at the Meeting of the Illinois State Medical Society, Quincy, May 22, 1902.

that is, in the employment of means suggested by the disease resisting powers of the body, and to prescribe so as to not interfere with or antagonize the conservative efforts of the organism, and it is just here that synthetic chemistry is particularly useful, by imitating nature and building up in the laboratory, remedial agents similar to those constructed by the chemic processes of the system.

There is hope that chemistry will unlock the secrets of the so-called immunizing agents and show the exact nature of those valuable chemic bodies and the processes by which they enable us to combat disease.

While many of the newer remedies possess chemic properties of the most astonishing kind, careful investigation shows, also, that many have no direct therapeutic value, which is easily explained when we consider how different from natural processes of disease are the circumstances of experiment.

It has been estimated that, in the last thirty-five years, no less than four hundred so-called antiseptics or germicides have been introduced to medicine. Compounds of Mercury, Silver and Copper have found a very extended application as germicides, particularly Mercuric Chloride (Hg. Cl. 2), Silver Nitrate (Ag. No. 3), and Copper Sulphate (Cu. So. 4).

The exact action of these germicides is not understood, although it has been variously explained. It is well known, however, that they are as a rule decidedly irritating and devitalizing: these undesirable features have been explained on the ground of their chemic affinity for the tissues or for the cell constituents.

For centuries iron has been administered without a thought being given to the question of *how* it acted: the results being satisfactory, that was all the physician (and the patient) cared about.

We know that certain metallic salts will enter into chemic combination with certain proteid substances and recent investigations seem to have demonstrated that the leucocytes are the agents of absorption and transportation through the circulation of compounds of Hg., Ag., Fe., and Cu.

While the chemistry of living substances is still beyond our knowledge and blood conditions are difficult to understand, the theoretic consideration upon which these salts were manufactured was stimulated by the physiologic investigations of Schafer, Bunge, Lowit, Halliburton, Vaughn and many others, which show that the most distinctive constituent of white blood corpuscles is Nuclein.

By Nuclein is meant that constituent of the cell by virtue of which this histologic unit grows, develops and reproduces itself. Chemically the nucleins are complex proteid bodies, notable for the large amount of phosphorus which they contain in the form of Nucleinic Acid and by virtue of their Nuclein, the cells of various organs possess and manifest their individual peculiarities.[1, 2].

With our present knowledge of the components of white and red blood corpuscles and of lymph corpuscles, we are justified in stating that the most important constituent of them is the complex nitrogenous body called, first by Miescher[3], since it is present in all cell nuclei, Nuclein: a body which is remarkably stable and difficult to change by chemical agents[4].

The leucocytes consist of 88.51 per cent. water and 11.49 per cent. solids, of which nuclein comprises 77.45 per cent[5]; the nuclei of pus corpuscles also consist very largely of Nuclein[6].

The red marrow cells have been examined macro-chemically and found to contain high per centages of nucleo-proteids[7]. The red blood corpuscles have been found to possess, besides haemoglobin (86 to 94 per cent.), Nuclein in amounts ranging from 5 to 13 per cent[8].

The liver[9], spleen[10], salivary glands[11], kidneys[12], lungs, testes [13, 14], semen, ovaries, spermatozoa[15], brain, cord and other nerve tissues[16, 17], thymus[18], and thyroid glands[19], have all been examined chemically with the result that Nuclein has been found to be the most abundant, as well as most important proteid substance present. Wherever nature provides for the elimination of poisons or waste products of any description, there we find Nuclein present both in the

secretions and in the tissues. The only proteid that has been obtained in any quantity from the thyroid gland is a Nuclein[19, 20]: this observation should be of great importance in considering the administration of thyroid gland or extracts of it in certain conditions.

It may be that the administration of Nuclein or Nucleinic Acid would be attended with good results in those cases where the exhibition of the gland itself has been of use.

Among the constituents of blood plasma, Nuclein has been demonstrated, and that the germicidal action of the blood is not due to phagocytes nor to serum-albumin, but is due to the Nuclein present, furnished by the polynuclear leucocytes has been demonstrated by Vaughn and McClintock[21, 22]. I do not discuss the theory of phagocytosis proposed by Metschnikoff, in this connection, since I believe anyone familiar with his later writings[23], will agree that they offer a satisfactory demonstration of the statements of Vaughn and others as to the role played by the multi-nuclear leucocytes. The solid matter of the colorless corpuscles originating in lymphoid structures probably consists very largely of Nuclein[24]. The vitality of the animal organism depends upon the integrity and functional activity of its cells: health is maintained and resistance to disease effected through the influence of the so-called "defensive proteids" of which Nuclein is the most active. That Nucleinic Acid is a powerful germicide was first shown by Vaughn, Novy and McClintock[25].

The foregoing resume is sufficient grounds for the assumption that Nuclein or Nucleinic Acid occupies a much more important part in the physiology of the human body than we have been crediting it with.

Remembering these facts and theories, Schwickerath of Bonn[26], conceived that it might be possible to form soluble compounds of the metals (Hg, Ag, Cu and Fe) which had been of so much value to medicine, with Nucleinic Acid, a substance common to both blood corpuscles and the vital tissues of the body, upon the assumption that such substances if possible to produce would be more gratefully received by the human organism and act less like foreign bodies than the commoner compounds of the metals.

Nucleinic Acid can be obtained from semen, salmon sperm, blood and yeast, but the difficulty arose of obtaining quantities of the acid by processes not too complicated. While the chemic formula of acids derived from these different sources differ markedly [27, 28].

Nucleinic Acid from blood—$C_{30}\ H_{52}\ N_{9}\ P_{3}\ O_{17}$.

" " " Salmon sperm—$C_{40}\ H_{94}\ N_{14}\ O_{17}\ (P_{3}\ O_{5})_{2}$.

" " " yeast—$C_{40}\ H_{59}\ N_{16}\ O_{22}\ (P_{2}\ O_{5})_{2}$.

the physiologic reactions of these acids are practically identical and as yeast cells saccharomyces Cerevisiae can be made to yield the acid more easily, this source was chosen.

When the statements of the various authors who have dealt with Nuclein are compared, it seems as though no definite substance exists to which the one name of Nuclein could be properly applied: but it is more probable that the different results of the various workers are to be attributed to the impurity of the substances on which they operated[29], or the faulty technicque of their experiments.

Pure Nucleinic Acid from yeast being quite soluble in water, but more so if a small amount of alkali is added to the water: a solution of the acid is prepared and freshly precipitated oxide of the particular metal under consideration is added and gradually dissolved, combining with the nucleinic acid.

If a large quantity of alcohol (in excess) is now added, a voluminous precipitate is formed which is the new chemic compound of Nucleinic Acid and Mercury, Silver, Copper or Iron, as the case may be. These new compounds contain the metals in true chemic combination[30], they do not precipitate albuminous substances, are not precipitated by alkalies[31], and are very slightly affected by hydrogen sulphide; are soluble in water with faintly alkaline or neutral reaction, are also soluble in glycerine, liquid petrolatum, and lanolin. They are not soluble in alcohol or ether. They are decomposed by strong acids (nitric and sulphuric) not by dilute hydrochloric acid. Their

aqueous solutions are not changed by boiling. They all have a metallic taste.

The Nucleid of Mercury contains 10 per cent. of the metal and has been named Mercurol by Dr. Schwickerath. The Nucleid of Iron has 6 per cent. of iron and the name Ferrinol: The Nucleid of Silver contains 10 per cent of Ag and is named Nargol. Cuprol is the nucleid of Copper and contains 6 per cent. of the metal.

The chemic formulae of these salts have not been determined and while the seeming inconsistency of not being able to demonstrate the chemic constitution of these nucleids, (when we know the valence of the metals and know the chemic constitution of the nucleinic acid), and in claiming a definite chemic constitution for them, seems at first glance to be incontrovertible, still it is easy to explain to a chemist familiar with albuminoid substances.

It is a well known fact that the slightest variation in one, of the multitude of conditions supervening in the chemic investigation of the constitution of an albuminoid body, is sufficient to modify the result obtained so that it is almost impossible to duplicate the conditions so as to produce exactly duplicate results. These are difficulties experienced by chemists constantly in their work upon albuminoid compounds.

Regarding the statement that Nargol, Mercurol, Ferrinol and Cuprol are definite chemic compounds, I may state that this is based upon the evidence afforded by the lack of action upon these compounds of the precipitating agents commonly used to distinguish the metals.

When to a solution of Ferrinol, a solution of H_2S is added there is no immediate reaction between the two, but a dark color gradually developes which very slowly changes into black, apparently indicating decomposition: tests show that it takes a very long time to produce complete conversion of the nucleid into sulphid—the time necessary for this action being infinitely longer than where ordinary iron salts are employed.

Cuprol is not precipitated by H_2S nor does it give the characteristic blue color when treated with alkalies.

Ferrinol is not precipitated by N H4, O H or by K4, Fe (C N)6; this latter reagent producing only a slight blue color upon adding it to a Ferrinol solution.

When Na Cl, or dilute H Cl, is added to Nargol solutions there is no characteristic reaction between them, but a change takes place which (shown by repeated tests) requires about ten days for the decomposition of the silver salt. In like manner a solution of Mercurol is very slowly decomposed by Na Cl or H Cl. Mercurol requires a very long time to show any reaction with H_2S, and it is not precipitated by alkalies. The ordinary soluble salts of Mercury and Silver on the contrary are instantly precipitated by both. This remarkable behavior on the part of these nuclein combinations with their characteristic re-agents certainly affords grounds for declaring that they are joined by one chemic bond, i. e., that they are formed by a chemic reaction.

The therapeutic application of Nuclein and compounds of Nucleinic Acid is perfectly rational and supported by plenty of evidence based on clinical observation and experimental research. The theory briefly stated, is to supply the human organism directly, that which it is constantly acquiring by more circuitous processes, thus going to the root of self cure and using the laboratory for the artificial increase of the "defensive proteids" of the human body.

Practically the same theory underlies the so-called serum therapy, for while there is supposed to be an antitoxin for every toxin, yet the nucleins are presumed to be general and constitutional, not local and specific: in other words, they act as negatives to all kinds of positive displacements of the physiologic balance between health and disease.

More thought and work have been expended by physiologists in endeavoring to explain the physiologic importance and action of iron salts, than those of other metals, so we may consider the nucleid of iron to good advantage, inasmuch as the internal administration and reactions of this series of nucleides seems to be practically the same.

The essential value of the inorganic salts of the metals, to the proper nutrition of the body, does not force itself upon our at-

tention, since, as a rule, we unconsciously get a proper supply with our food (with some exceptions) without the necessity of making a deliberate selection. But they are surprisingly important in the maintenance of the normal physiologic and chemic properties of the tissues and body fluids[32].

The greatest importance of iron salts lies in the fact that the continual formation of new red blood corpuscles requires a supply of iron for the synthesis of haemoglobin, in fact there is strong reason for the belief that all the iron necessary for the formation of haemoglobin is derived from Nuclein Compounds. Iron has been demonstrated in the nuclei of the white cells[33].

Aporti[34], found that iron, par excellence, was the metal affected in the formation of haemoglobin.

In many conditions the administration of iron according to preconceived notions retards rather than accelerates the recuperative forces. According to Osler, Cushny, and others, the tincture of iron chloride is worse than useless in erysipelas. Years ago anaemia was treated by massive doses of iron, but greatly diminished doses are the rule now.

Some physiologists deny the absorption of the chemist's iron and many believe that only a limited percentage is absorbed. Nothing definite seems known regarding the absorbable form of iron and only approximate estimates can be given as to the amounts taken up by the organism.

Some of the latest physiologic experimental workers claim that the inorganic iron follows the course of the food iron, but fail utterly to prove their case. It seems to me that the *nutrient* forces of nature or, in other words, the chemistry of nutrition must hold the secret so sought for.

That iron *is* absorbed by the intestinal villi and assimilated by the lymphatics, the same as any other food element, I believe to be true. The absorbing cells of the intestines take up certain parts of the intestinal contents in which they are bathed and build up from these certain materials which pass into the lymph currents: the cells of the secreting glands take up materials from the lymph currents in which they are bathed and from these elaborate, in some manner, products which are passed into the gland as a secretion[35].

That absorption and secretion are selective chemic processes and not of a purely physical nature has been proven[36]. The remarkable quantitative resemblance between the ash of milk and the ash of the body of the young, and the equally striking difference between the ash of milk and the ash of the maternal blood, shown by Bunge, seems to show that the inorganic salts are formed from the blood serum, not simply by osmosis, but by some selective absorptive or secretory act[37].

Bunge[38], and Schmiedeberg[39], have found in the yolk of eggs, iron contained in a nucleo-albumen: that and similar nuclein compounds they believe to be the source of absorbable iron while inorganic salts of iron are only useful in combining with the free H_2S in the intestines forming Fe S, thus preventing a similar formation with the nuclein iron.

I would advance the hypothesis that inorganic salts resist chemic decomposition and are absorbed or pass into the blood current only in so far as they combine with the Nucleinic Acid, (which we have seen was so universally present in the vital and haematogenic organs), and that they become converted into nucleids by natural action, or, to state it in other words: inorganic salts of iron and other metals must undergo chemic reformation into nucleids of the metals before the organism can make use of them as nutrients or reconstructives.

This hypothesis would explain the physiologic action of the nucleids under consideration.

Physiologic researches on lower animals and clinic experiments have demonstrated that these new synthetic salts have great therapeutic possibilities.

Salkowski[40], working with nucleinic acid iron has shown that it causes marked increase of the iron in the organs, especially the liver, of rabbits (300 per cent. in ten days), to which it had been administered internally. In the tests the rabbits were given, in addition to their regular food, 2.5

grams of nucleinic acid iron, for ten day periods. In the following table the iron contents of the liver is calculated in M. G. per K. G. of animal weight.

Iron Admd.	No. of Test. Animals	Iron in Liver
None	3	3.04
Albuminate of Iron...	2	4.52
Albuminate of Iron...	2	4.12
Nucleinic Acid Iron..	4	9.05

After an experience with Nargol in the treatment of over two hundred and forty cases of the various phases of conjunctivitis (of gonorrhoeal and other pyogenic types), of vernal catarrh, corneal ulcer, etc., *Schwarz*[41], using solutions ranging from 5 to 30 per cent. concludes that Nargol is practically non-irritating, has considerable astringing power, penetrates deeply, is more stable and more satisfactory than other silver compounds. He also observed that all of the solutions caused blanching of the conjunctiva.

Hartridge[42], has used 10 per cent. solutions of Nargol in cases of acute contagious ophthalmia and suppurative conditions of the lachrymal sac and finds that they cause no pain, are pleasant to use, and are efficacious, cutting short the attack, etc.

Wippern[43], reports three obstinate cases of empyema of the maxillary antrum which he was able to cure with ¼ of 1 per cent. solutions of Nargol, after persistent and futile use of other methods of treatment.

Martin[44], places Nargol first in his estimation of the Silver Salts for use as a remedy in Gonorrhea. He finds that the treatment of acute and chronic inflammations of the genito-urinary mucous membrane, and in acute and chronic cystitis, by injection and instillations of Nargol is followed by the most happy results.

Lydston[45], thinks that "Nargol, the new compound of Silver and Nucleinic Acid merits a trial."

In view of the demonstrated value of silver salts in the treatment of Gonorrhea it seems as though the silver nucleid would be particularly valuable in this disease and clinical experiments are being conducted to ascertain this point.

While the old fashioned blue stone still has a prominent place among remedies for the treatment of granular ophthalmia, etc., the nucleid of Copper (Cuprol) seems to be fast displacing it.

Snell[46], reports having used Cuprol in several cases of trachoma, using the dry powder and 5 per cent. solutions alternately with very encouraging results.

He finds that the powder is so impalpable that it does not immediately irritate and that the discomfort is very slight as compared with the application of blue stone.

Von Sicherer[47], after using Cuprol for ten months finds it especially remarkable because of the absence of pain and irritation following its application. He has used it in many cases of acute and chronic catarrh of the conjunctiva and in obstinate cases applied the dry powder, the pain attending this procedure is slight, and a local anaesthetic is never necessary.

Butler[48], points out that copper is a very valuable alterative nervine, although neglected by modern physicians.

Hare[49], states that strong claims for copper have been brought forward as a valuable remedy in Anaemia, as a stimulant to the tissues, and as for local use in pharyngitis, etc.

It is rational to believe that Cuprol would be used with satisfaction in such cases as Butler and Hare describe.

Ayres[50], has used the mercury nucleide (Mercurol) in the treatment of Syphilis, very extensively: he reports a series of one hundred and eighty cases so treated, of which he presents a tabulation of ninety-five cases, in which he states that sixty-seven cases had no other medication than mercurol. In fifteen out of the remaining twenty-eight the *addition* of iodide of potassium was found to be sufficient to control the disease, while in six others the addition of an iron tonic sufficed for this purpose.

Ayres concludes that Mercurol is the most satisfactory form for the administration of mercury in the treatment of syphilis.

Guiteras[51], concludes after treating one hundred and fifty cases of specific urethritis with Mercurol solutions, beginning with ¼ of 1 per cent. and increasing to 5 per cent. that it is a very efficient and safe remedy to use in this way. He lays special stress

on the fact that of this series only two developed complications: one a Gonorrheal Rheumatism and the other an epididymitis, an extremely low per centage.

Smith[52], has used Mercurol in solution in cases of gonorrheal ophthalmia, chronic conjunctivitis, blepharitis, phlyctenula, ulcers of the cornea, acute and chronic suppurative otitis media, before and after cataract operations, and reports very gratifying results. He also uses Mercury Nucleid in ointments in preference to the yellow oxide.

Fraley[53], reporting on the use of Mercurol in the treatment of Gonorrhea, shows that relief of the symptoms was promptly and that the average duration of the treatment was twenty-six days.

Burtenshaw[54], in reporting a case of exudative pericarditis, in the course of which a severe cystitis arose, speaks very favorably of irrigations of Mercurol, which almost immediately relieved the patient after other remedies had failed and when, within four days, completely cured the cystitis.

Darche[55], is enthusiastic over a combination of Mercurol, boric acid, and Chloretone, which he has used in ointment, suppository and bougie in the treatment of ulcers of leg, ulcers of rectum, ulcerated hemorrhoids, pruritus vulvae, and acute gonorrhea.

Lake[56], has used Mercurol extensively in the treatment of acute and chronic suppurative otitis media, in operations, (ossiculectomy and opening the frontal sinus), irrigating maxillary antrum, etc., such treatment being followed by satisfactory results.

Scherck[57], finds that Mercurol possesses strong germicidal properties, penetrating the tissues more deeply and with less irritation than other remedies in genito-urinary diseases.

Martin[58], believes Mercurol to be the most satisfactory Gonococcide we have.

Stone[59], used twenty grains of Mercurol to the ounce of vaseline as an ointment in dressing ulcers of the leg preparatory to skin grafting in seven cases. In from five to ten days the ulcers were healthy and ready for grafting and in every case the grafts took so that at the end of two weeks the patients were discharged.

DEDUCTIONS.

a. These new salts of Nucleinic acid are rational reconstructives: they are true tonics: They increase physiologic resistance: they increase the functional activity of secretory organs.

b. They are powerful germicides while not harmful but beneficial to the tissues.

c. If our present knowledge of nucleins and leucocytosis is correct, then the nucleid is the proper form for administration of metals.

d. We do not positively know the rationale of their action but we have nothing which holds out such prospects for successful medication.

e. These new synthetic salts are valuable additions to the pharmacopeia.

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SYSTEM IN MEDICAL PRACTICE.

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This paper is written for the purpose of showing in a brief way how doctors may better conserve their time and energies and is in response to many inquiries I have had regarding the card system as adapted to the needs of the busy practitioner. The duties of life have become so numerous and exacting that the old methods must give way to new and more progressive ones. The doctor whose whole armamentarium consisted of saddle bags and lancet has been forced to adopt modern offices with full modern equipment, as the self made doctor, without college education or medical degree, has been replaced by the M. D. produced by four or five years of graded study in a thoroughly equipped college with from ten to fifteen practical working laboratories.

These changes have produced men who must do more work. They do not necessarily see more patients, but give each one far more attention. This is an age when the details must be cared for, and they are multitudinous.

One practical question with every ambitious and conscientious man, is how can he carefully look after the business side of his profession, that is "keep books" so that accounts will always be posted and statements ready when called for; keep careful records of his cases with signs, symptoms and diagnosis, record operations with their findings and results; read, analyze, classify and assimilate his current medical literature, and have it at hand for ready reference; prepare papers and attend to the various other duties connected with medical societies; give careful attention to correspondence, and keep accessible what one writes, as well as what one receives; and keep invoices and receipts carefully and properly filed. This indicates briefly the topics which will be taken up in this paper. Necessarily their treatment will be short, and for the most part simply suggestive to those who may desire to adopt more modern methods.

Before we enter into the consideration of any details there is one proposition which

must be thoroughly understood. Any system, to be successful, must save time and energy, or what amounts to the same thing, or is better, it must enable us not only to save our time and energies, but must also enable us to increase the quality, as well as the quantity and accuracy of our accomplishments. If it does not do this it cannot be considered successful. This must be the test for what follows.

It goes without saying that such a system pre-supposes the use of cards instead of books. The day of books for such purposes has passed. If you are not fully convinced on this point a few hours investigation of any thoroughly up-to-date public library, and of a few of some business houses using modern methods, will serve to finish your conviction.

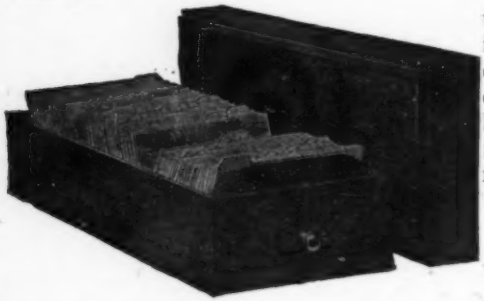

Fig. I.
Simplest form of tray for cards.

The card system is not altogether new, as slips and cards were used in France in the seventeenth century, and have been more or less in use ever since. They were usually, however, temporary expedients. Their use for permanent records is of very recent origin. The development of the modern card system is American. Much of its development is due to Melvil Dewey and the Library Bureau. For fifteen years this was the only concern which manufactured cards and other accessories to the card system, exclusively. To them through the American Library Association is due the credit of establishing uniform standards of size, which is an exceedingly important matter. While cards were first used in Museums and later in Libraries, they are now used in every business and trade, and each year sees them adapted to new uses.

So much for the Historical. The foundation elements of a card index are, first the card, second the guide, and third the box or drawer in which these are contained. In Fig. I, you will find these elements illustrated.

The data which you wish to record is on the card, and the guide which stands up above the cards, carries an index letter and is simply an aid in finding a given card quickly. The more guides properly distributed, the more readily are the cards found. These foundation elements are subject to great modification.

The use of cards offers special attractions to the busy physician. It is not my intention to discuss tne theory of card using, or to enter into any detailed account of the various forms on the market and the various uses to which they are adaptable. It is my intention simply to relate my own method of using cards and to illustrate the various card forms, indexes, and cabinets, which I have in actual daily use, fully realizing that it is far from perfect. I use card indexes for five principal purposes.

a. All bookkeeping, including the ledger.
b. All records of cases.
c. Topical index to current literature.
d. Alphabetical index to authors in current medical literature.
e. For the systematic filing of correspondence, invoices, receipts, catalogues, etc.

Bookkeeping. All my cards for whatever purpose are of a uniform size. The 33L card is the one used. Its actual size is illustrated in the cuts. It will be noticed that the first four lines of all the cards are for bookkeeping purposes, and provide space for the name, and residence of the patient, the date, the character of services rendered, and the amount charged, with an additional line for entering any credit. For convenience this is on all the cards.

The special advantages of cards for bookkeeping is that they are simple, accessible, accurate and expansive. The cards are small enough to fit the average pocketbook, and can always be carried in the pocket. In this way you have your card of original entry always with you. Visits can be recorded at the bedside, with the amount charged and

date. This never requires transferring to any other card or book, which insures accuracy in accounts. A new card is used for each service rendered the patient, or at least for each day.

Record keeping. The time has gone by when the progressive physician can afford to neglect his records. If it is business-like and necessary for Life Insurance Companies, Gas Companies, and other purely business organizations to keep such accurate records of their affairs how much more necessary and desirable is it that the physician should keep an accurate record of the conditions affecting his patients and the treatment applied.

noticed that each one provides space for the record, but that the record and the account are provided for on the same card. In this way, one card with one entry of the patient's name answers both purposes. The smaller card is more desirable for this purpose, because many of our entries will be very brief, and for the few which are long, several cards can be used.

Fig. II illustrates the simplest form of card and provides for a brief memorandum of the complaints of the patient, followed by the treatment or prescription given.

The reverse side of the card can be used if more space is needed. If a written prescription is given the patient, a carbon

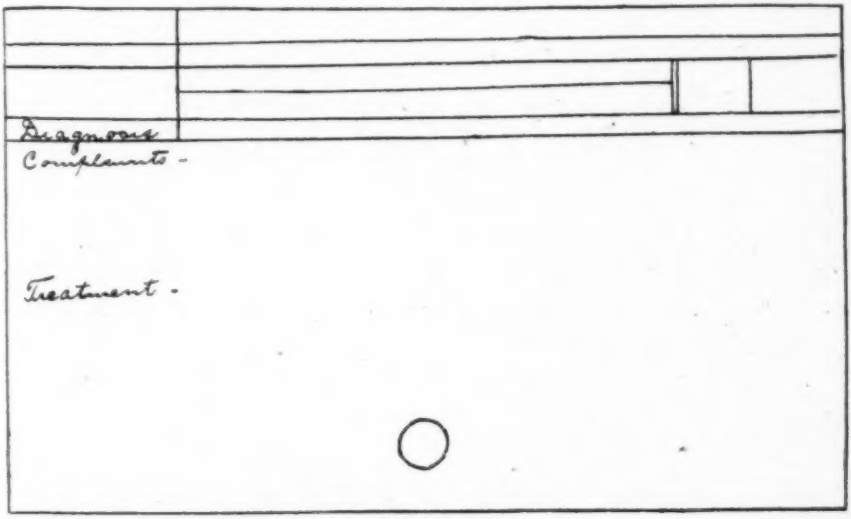

Fig. II.
General card for accounts and record.

Record keeping is no longer subject to argument as to its desirability, or even as to its necessity. It is simply a question of how these records can be most accurately and conveniently kept. Many of the plans which have been devised for record keeping, fail by their own weight. They are too voluminous and cumbersome for the busy physician to use, and he abandons them in desperation. Here again we fall back upon the simplicity and adaptability of the card system.

By referring again to the illustration of the various cards which are used it will be

paper will save the necessity of copying.

For any case which requires more investigation the card illustrated in Fig. III should be used first. This provides for a brief memorandum regarding the personality of the patient, and a record of previous illnesses.

Fig. IV provides for the family history of the patient, and should be used where a more searching inquiry is begun.

For memorandum of physical examination the card shown in Fig. V is used. It is usually necessary, however, in using this card to supplement it by a blank card; for

example, we may find the Glandular system greatly at fault, while there is very little to be recorded regarding the Circulatory, Respiratory, Digestive, Integumentary, Motor, Urinary, Generative or Nervous systems. In such case we use card No. V for making a brief memorandum as to the condition of each of these systems, while for the Glandular system, which is most at fault, we use Fig. II for making the detailed entries of the pathological glandular conditions. It would be still better to have a special form for each system. Specialists have such forms.

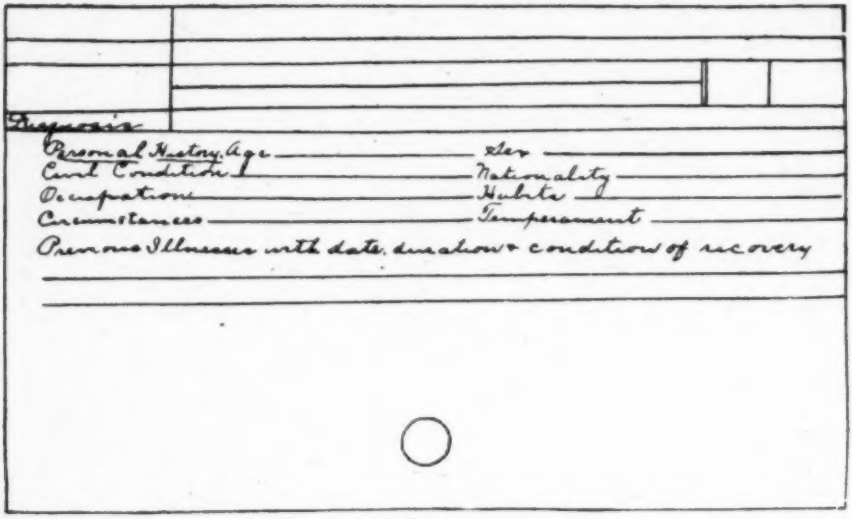

Fig. III.
Personal history card—short form.

In such case we may have from four to six cards as the result of our primary examination. These will really comprise less space than any book scheme covering the

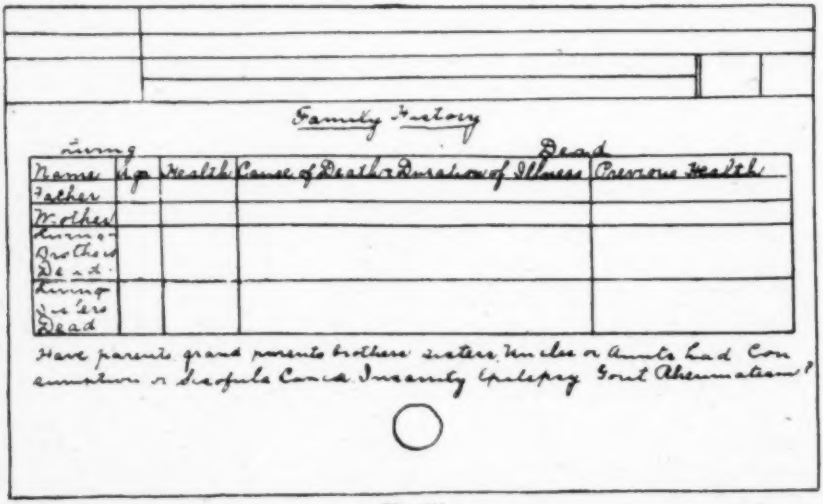

Fig. IV.
Family history card.

same amount of ground. Of course each physician can vary the form on the cards to suit himself. Those I am using were selected from some of our standard works on diagnosis, and have been fairly satisfactory.

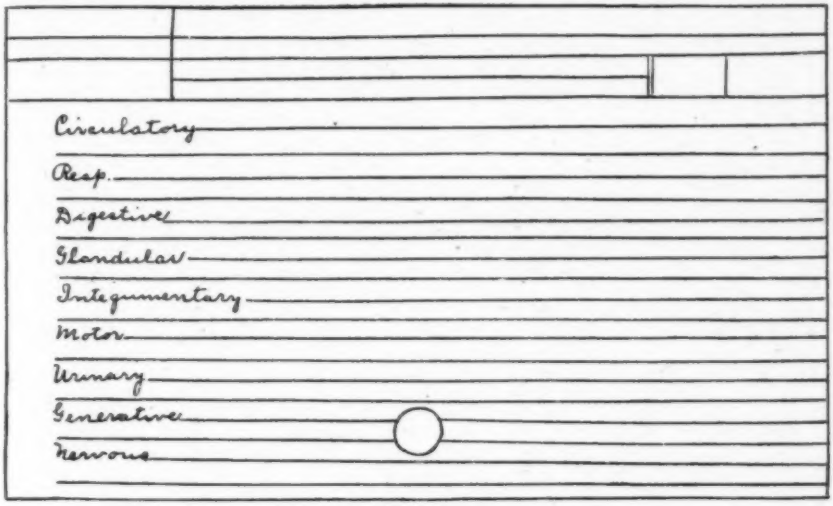

Fig. V.
Card for memoranda as to each system.

In addition to the data indicated, we should always have an examination of the urine, which is recorded on the card illustrated in Fig. VI.

This well illustrates the expansive feature of the card system. You can use either one card or a dozen cards, without in the least embarrassing its expansiveness. It can be used in a practice of ten patients per day, or fifty patients per day without the least difficulty.

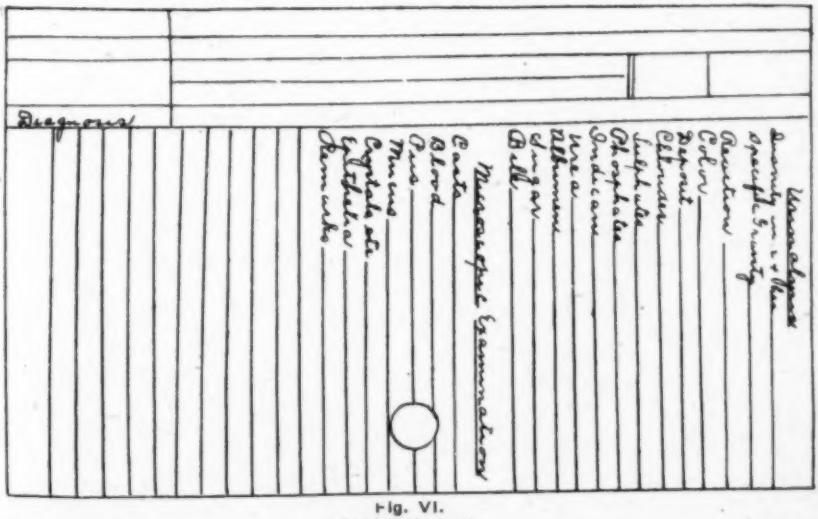

Fig. VI.
Urinalysis card.

Fig. VII is used for all accident and injury cases and contains space for all memoranda necessary in filling out the ordinary

railroad or accident insurance report. On the reverse side of the card the names of witnesses to the accident and other similar data can be placed.

tarium, in responding to an accident case, or any case for that matter, should be proper facilities for making a record of the facts.

I have recently adopted Keen's charts, for

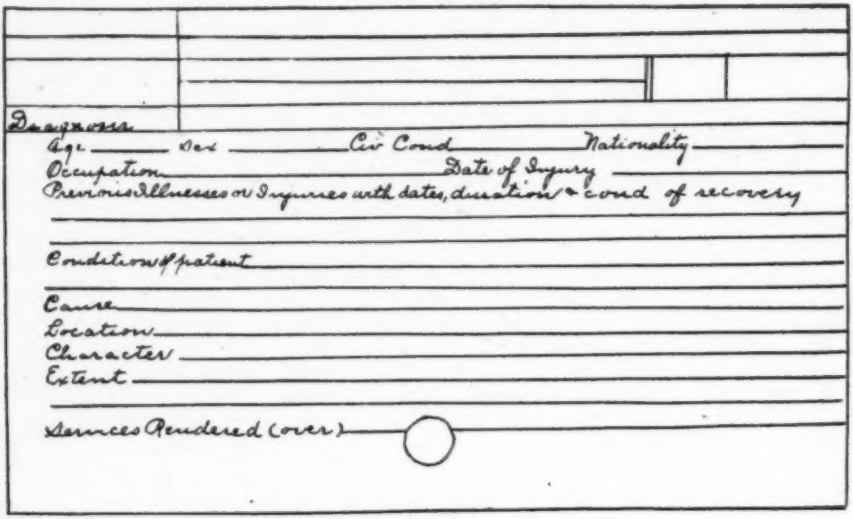

Fig. VII.
Card for record of injury.

The surgeon should not only hear what the patient and others have to say of the accident, but he should be prepared to make some record of it. A part of his armamen-

which P. Blakiston Son's & Co., have made for me according to my special order, a set of eight rubber stamps. They are made of the proper size to stamp on the cards,

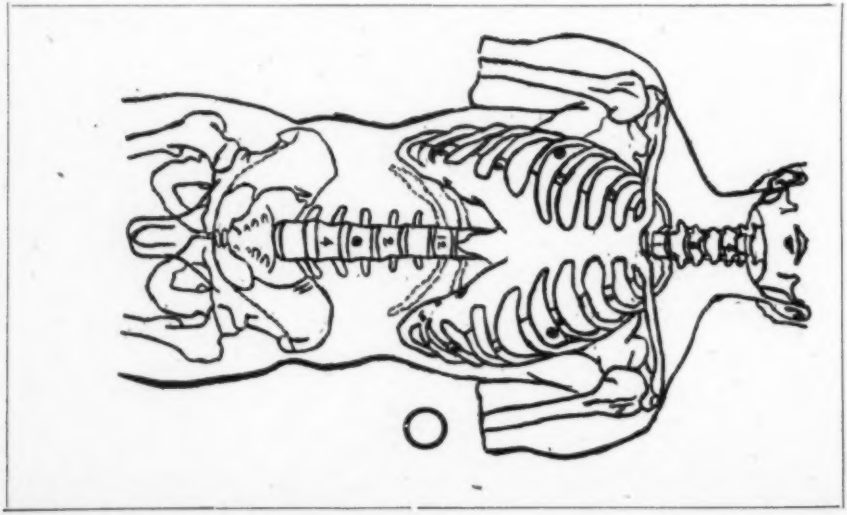

Fig. VIII.
Anterior portion of body—rubber stamp diagram.

Thus you see that besides the written description, which to be complete must be voluminous, one can quickly indicate on a diagram the nature and extent of an injury.

Fig. VIII shows the front of the body. Each bone is outlined, as is also the form of the body. Any injury occurring to the front portion of the shoulders, neck, ribs,

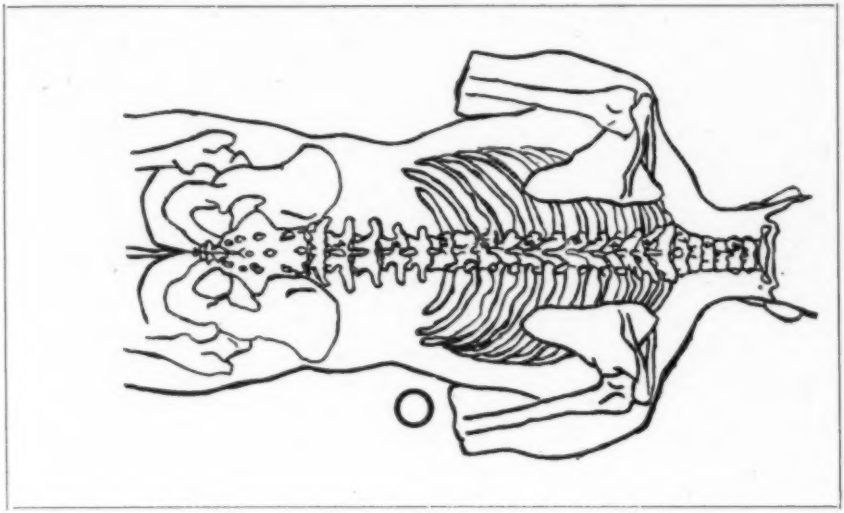

Fig. IX.
Posterior portion of body—rubber stamp diagram.

Of course the stamps cannot be carried in the pocket, but can be used on the back of the card of original entry after returning to one's office.

abdomen or pelvis can be quickly located.

Fig. IX represents the posterior part of the body, showing the vertebral column, scapula, ribs and pelvis. And it is especially

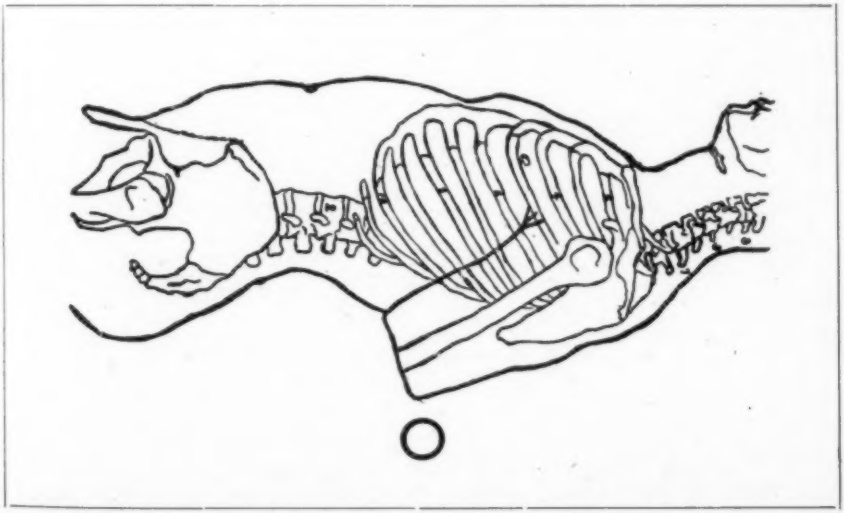

Fig. X.
Left side of body—rubber stamp diagram.

useful for injuries about the spine or back or posterior portion of the shoulder.

Fig. X shows the right side of the body, and is very useful in showing accurately the location of injury, disease or tumors of the side.

Fig. XI shows the left side of the body and is adapted to the same use as Fig. X.

Fig. XII shows the arms, hands and fingers. The anterior and posterior portions of all the bones from the shoulder to the finger tips are shown. These are specially useful in fractures and dislocations of the upper extremity, but any injury, operation, paralysis or seat of pain can be accurately recorded.

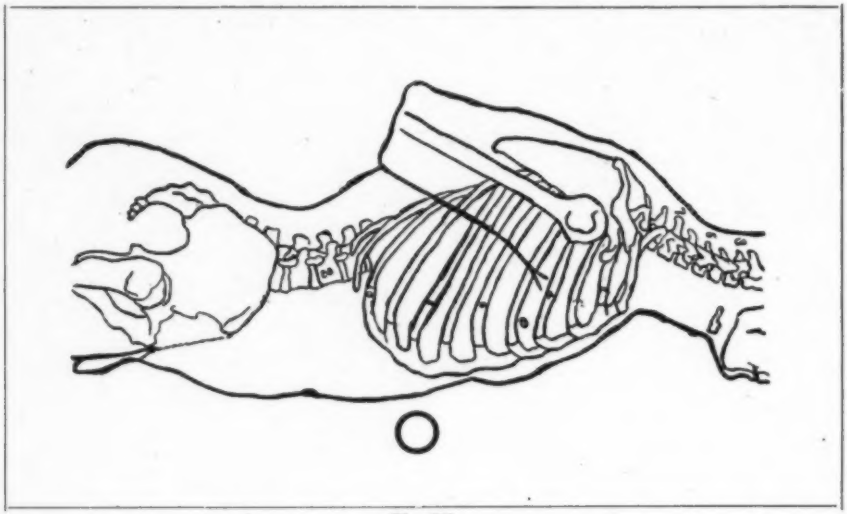

Fig. XI.
Right side of body—rubber stamp diagram.

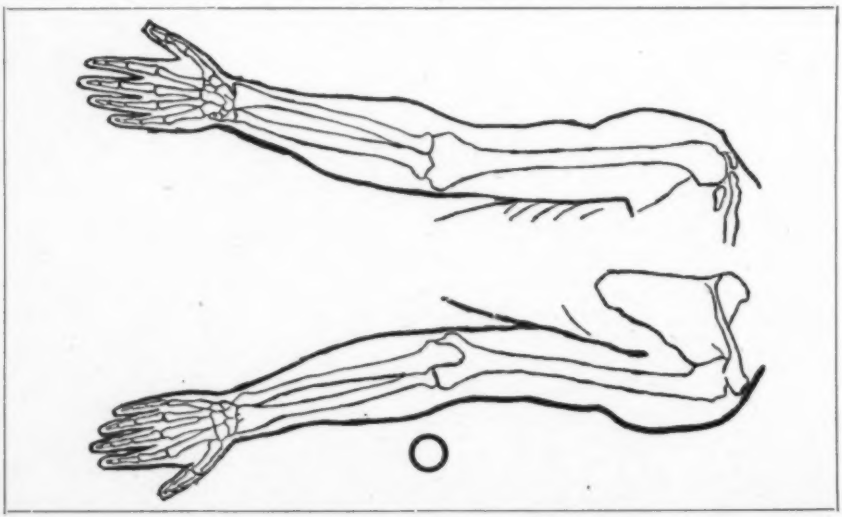

Fig. XII.
Arms and hands—Anterior and Posterior—rubber stamp diagrams.

Fig. XIII shows the lower extremities excepting the feet, and is useful in the same way as Fig. XII.

Fig. XIV shows the neck, face and head, and is probably the most useful of all.

Fig. XV supplements Fig. VIII in that it gives a larger view of the bones and tissues of the feet. All of these are very useful in recording injuries of the feet and ankles.

No description of an injury or seat of pain, or area of paralysis is so accurate as that carefully outlined on a diagram. For this reason railroad companies require their surgeons to indicate on a diagram the location of the injury.

Fig. XVI shows a form which I require

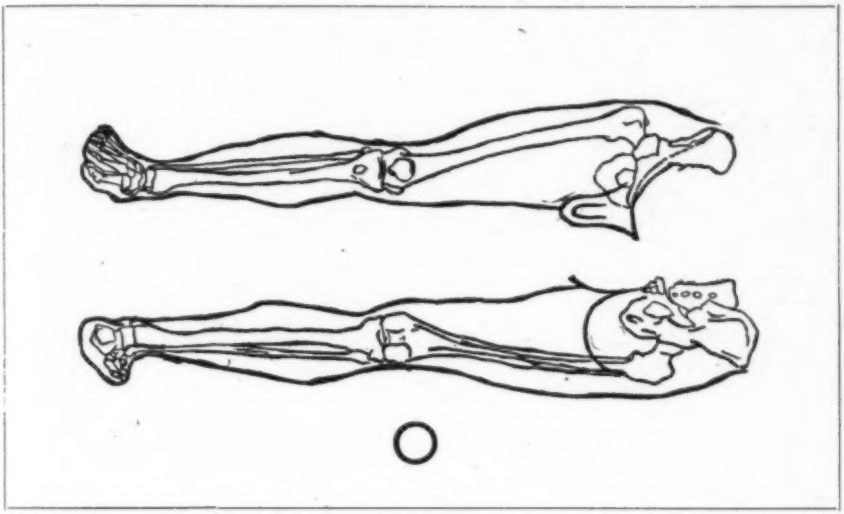

Fig. XIII.
Legs—Anterior and Posterior—rubber stamp diagram.

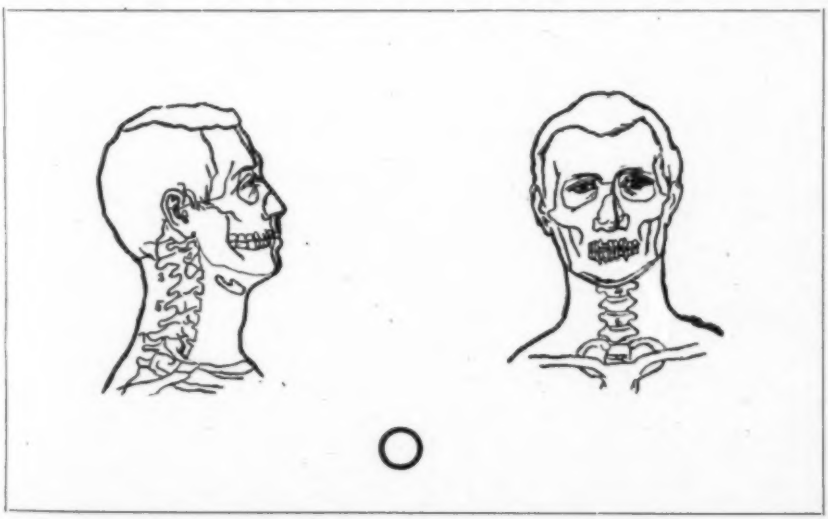

Fig. XIV.
Head, face and neck—Anterior and Lateral—rubber stamp diagrams.

my assistant to fill out for each anaesthetic given.

I always carry several copies of cards Nos. II, III, IV and V in my pocket book, one side of which I have had made to carry about 20 cards. In this way one is always provided with the facilities for bookkeeping and record taking, no matter where called. If a patient accosts you on the street and pays you money, it is only necessary to take out card No. II, record the patient's name, the date, and the amount paid. On returning to the office these cards are simply put in their proper place in the filing cabinet.

To facilitate the balancing of accounts it is necessary to have a ledger card on which

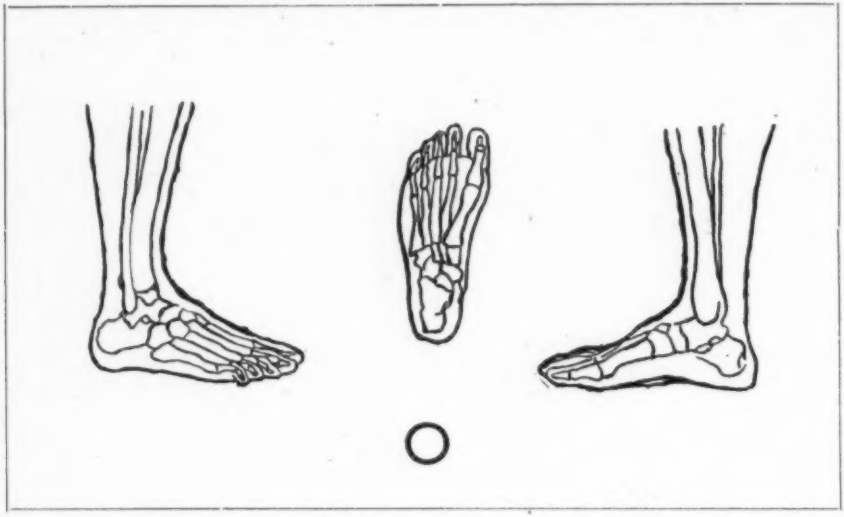

Fig. XV.
Feet and ankles, both sides and sole—rubber stamp diagrams.

To Anaesthesia for Operation

Diagnosis.
Age Sex Color State Height Weight
Habits
Phys. Condition Complications
Heart
Lungs
Kidneys Stimulants
Bowels
Preparation
Anaesthetic began m and ended m
Operation began m and ended m
Time to produce narcosis
Anaesthetics Time Quantity Remarks

Gas	m	c.c.	
Ethyl Bromid	m	c.c.	
Chloroform	m	c.c.	Operator
Ether	m	c.c.	Anaesthetist

Fig. XVI.
Anaesthetic card.

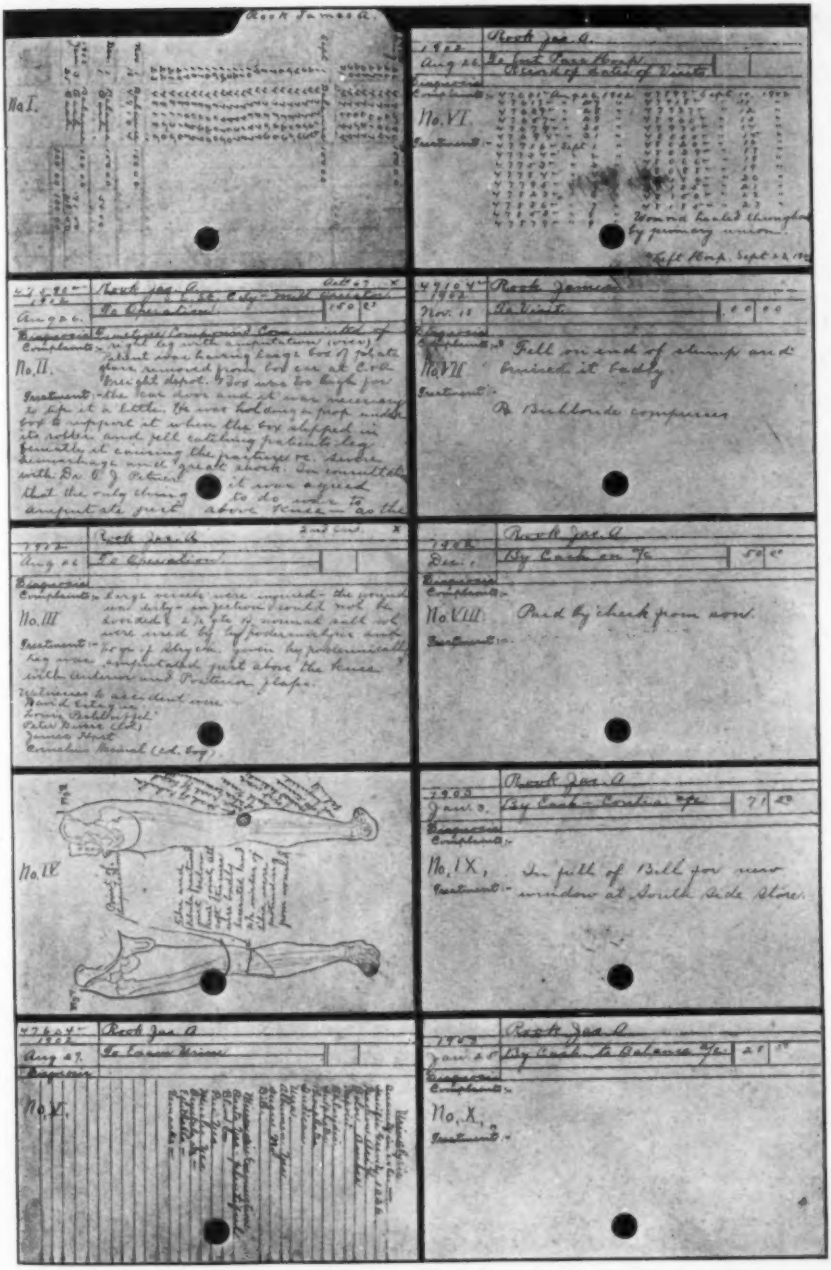

Fig. XVII.

Photographic reproduction of complete account and record of case. No. I. ledger card. Nos. II and III, account and history No. IV, urinalysis No. VI, memoranda of visits at hospital No. VII visit at home. No. VIII. IX and X. record of payments closing account.

the various amounts are entered in order each day. In Fig. XVII is illustrated a complete account with its records. You will notice the first card is a ledger card, which also acts as the guide card in the cabinet. It will be noticed that a part of this ledger card stands higher than the other

After an account is closed the cards, as matters of bookkeeping, are of no further use excepting to show that the patient has paid his account in full. But as a record of the case they are very instructive and important. Therefore, they are removed from the drawer containing live accounts and

Fig. XVIII.
Open drawer showing arrangement of ledger and day cards.

cards and contains the name of the patient. These are arranged in alphabetical order in the drawer. Alphabetical guides are also used to facilitate finding names.

By examining this illustration (No. XVII) it will be seen that we have made use of cards No. II, No. VI, and No. XIII.

placed in a transfer drawer, which contains records of past cases and incidentally shows the result of the account. In this way our regular ledger drawers never become encumbered with dead accounts. As soon as an account is paid, or otherwise settled, it is removed from the ledger drawer to the

Fig. XIX.
Cabinet used for day cards and ledger.

These cards, including the ledger card, contain all the information necessary about this patient and close the account. Fig. XVIII shows an open drawer with the ledger card containing the name standing up above the ordinary cards. One day card is exposed and well illustrates the appearance of ledger, day and record cards.

drawer containing transferred records. It is just as accessible here and does not encumber our live accounts. There is never a new ledger to be opened. The ledger is always new and live, and all accounts in it are either in the process of making or are supposed to be collectable.

Fig. XIX illustrates the cabinet in which

live accounts are kept. There are newer forms of cabinets for this purpose which are even more desirable, but this has answered my purpose very well. However, it must not be supposed that I began the card system by using this size cabinet. My first card cabinet is illustrated in Fig. XX, and provides for about two thousand cards with a sufficient number of guides. It is undesirable to begin with too large a cabinet. The needs of each one will be somewhat different, and it is far better to grow into the use of the card system than to try to adopt it all at once. When one is fully acquainted with its advantages there is no danger of returning to cumbersome books.

The form on the cards illustrated is printed with the mimeograph. I do this myself, and can change the form from time to time as seems desirable. They look a little better printed in type.

Before leaving the consideration of case records I wish especially to call your attention to a plan of grouping my case records so that all similar cases come together.

Fig. XX.
Two tray cabinet for 2,000 cards.

The cards illustrated in Fig. XXI are of a blue color. On this the diagnosis is the first item, and in the left hand corner, instead of the consecutive number should appear the classification number. This has accidently been omitted in the illustration. This number is the Dewey Decimal number which will be considered further on in the paper. By using the Dewey Decimal classi-

Fig. XXI.
Photographic reproduction of history cards (blue cards) from classified histories of cases—classified by diagnosis and arranged chronologically in each class. (See Fig. XVII.)

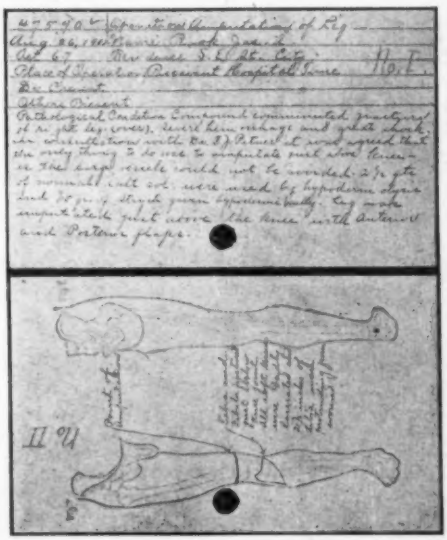

Fig. XXII.
Photographic reproduction of operation card from classified index of operations and arranged chronologically in each class.

fication all similar topics will have the same number and will fall together in the index.

Fig. No. XXII illustrates the operation card. These are salmon colored cards, and the first item is the operation. In this way all similar operations are grouped together. The diagnosis cards and operation cards are simply copies of the original record and are made for convenience. Instead of making out the full card one could simply keep a classified index of the cases. This would, however, necessitate going back to the original record in order to get the desired data. These cards can be made by the office assistant and will often simply consume time which would otherwise be lost.

Fig. XXIII.
Vertical letter file, showing arrangement of folders.

The care of correspondence, invoices and receipts is the next item which should be considered in arranging an orderly and systematic office. It goes without saying that all correspondence should be put away by some system accessible for future reference. This should include not only the letters received, but also carbon copies of the letters written. With the use of the typewriter it is almost as easy to make two copies as one. The carbon copy can always be retained and filed away with the letters received. The letters for each correspondent are placed in a separate folder.

These folders are numbered and put away in numerical order. For this purpose I use a vertical filing cabinet, which is illustrated in Fig. XXIII, I always put all invoices and receipts in the same folder. All my correspondence with Smith & Jones, dealers in surgical instruments, including letters received, letters written, invoices and receipts will be found in folder No. 508, and if these are properly put away they will appear in consecutive orders as to dates.

In order to facilitate the use of the letter file there is a card index to it. This index comprises the upper drawers in the cabinet, illustrated by Fig. XIX. This is a simple alphabetical index with plenty of guide cards which make the index very accessible. There are rarely more than six names between any two guides. To illustrate, if I wished to find the correspondence of the Smith & Jones, I look in the alphabetical index of names, which also serves the purposes of an address book, for the Smith & Jones card, and find that their correspond-

ence number is 508, which is the number of the folder in the vertical file. This system of filing is perfectly expansive, and by the use of transfer boxes old correspondence can be eliminated quickly from the new.

This brings us to a consideration of our Current Medical Literature. Simply to read our medical journals as we may have time, and then throw them aside, is to deprive ourselves of their greatest value. Any one familiar with books and the making of books will tell you that journal literature is fully five years ahead of the books. If this is true, and my experience leads me to believe that it is, no physician desiring to be fully abreast of the times can afford not to have ready access to his journals.

The first question which brings itself to one desiring to make his current medical literature accessible for daily use is, what system or plan of indexing shall be adopted. It is a proposition of easy demonstration that no one should undertake the formation of an index who has not had special training and experience in handling and classifying topics, and who has not access to an enormous number of topics. A good plan of indexing cannot be built on a small scale. I tried several plans without success, and finally decided to adopt a ready made plan. There are a few such plans.

The one which I have adopted is that arranged by Melvil Dewey, formerly secretary of the University of the State of New York and now director of the New York State Library School. This is called "The Decimal Classification and Relative Index Arranging, cataloging and indexing public and private libraries, and for pamphlets, clippings, notes, scrap books, indexes, resumes, etc. This index, which is built upon the decimal plan, divides all knowledge into ten classes, and each of these is again divided into ten divisions as follows:

DIVISIONS.

000 General Works.
010 Bibliography.
020 Library Economy.
030 General Cyclopedias.
040 General Collections.
050 General Periodicals.
060 General Societies.
070 Newspapers.
080 Special Libraries. Polygraphy.
090 Book Rarities.

100 Philosophy.
110 Metaphysics.
120 Special Metaphysical Topics.
130 Mind and Body.
140 Philosophical Systems.
150 Mental Faculties. Psychology.
160 Logic.
170 Ethics.
180 Ancient Philosophers.
190 Modern Philosophers.

200 Religion.
210 Natural Theology.
220 Bible.
230 Doctrinal Theol. Dogmatics.
240 Devotional and Practical.
250 Homiletic. Pastoral. Parochial.
260 Church. Institutions. Work.
270 Religious History.
280 Christian Churches and Sects.
290 Non-Christian Religions.

300 Sociology.
310 Statistics.
320 Political Science.
330 Political Economy.
340 Law.
350 Administration.
360 Associations and Institutions.
370 Education.
380 Commerce and Communication.
390 Customs. Costumes. Folk-Lore.

400 Philology.
410 Comparative.
420 English.
430 German.
440 French.
450 Italian.
460 Spanish.
470 Latin.
480 Greek.
490 Minor Languages.

500 Natural Science.
510 Mathematics.
520 Astronomy.
530 Physics.
540 Chemistry.
550 Geology.
560 Paleontology.
570 Biology.
580 Botany.
590 Zoology.

600 Useful Arts.
610 Medicine.
620 Engineering.
630 Agriculture.
640 Domestic Economy.
650 Communication and Commerce.
660 Chemical Technology.
670 Manufactures.
680 Mechanic Trades.
690 Building.

700 Fine Arts.
710 Landscape Gardening.
720 Architecture.
730 Sculpture.
740 Drawing. Design. Decoration.
750 Painting.
760 Engraving.
770 Photography.
780 Music.
790 Amusements.

800 Literature.
- 810 American.
- 820 English.
- 830 German.
- 840 French.
- 850 Italian.
- 860 Spanish.
- 870 Latin.
- 880 Greek.
- 890 Minor Languages.

900 History.
- 910 Geography and Description.
- 920 Biography.
- 930 Ancient History.

Modern.
- 940 Europe.
- 950 Asia.
- 960 Africa.
- 970 North America.
- 980 South America.
- 990 Oceanica and Polar Regions.

No. 600, Useful Arts, is the class, and 610, Medicine, is a division which has special interest for the physician. The following gives the principal sub-Divisions under 610:

610 Medicine.

.1, Philosophy, Theories; .2, Compends; .3, Dictionaries, Cyclopedias; .4, Essays, Addresses; .5, Periodicals; .6, Societies; .7, Study and teaching; .71, Medical schools; .72, Medical education of women; .73, Training schools for nurses; .76, Nat. History of man; .77, Medical museums; .8, Collections; .9, History of Medicine.

611 Anatomy. Histology.
- .1 Circulatory System.
- .2 Respiratory System.
- .3 Digestive System.
- .4 Glandular and Lymphatic System.
- .6 Genito-Urinary System. Breasts.
- .7 Motor and Integumentary System.
- .8 Nervous System. Sensory Apparatus.
- .9 Regional Anatomy.

612 Physiology.
- .1 Blood and Circulation.
- .2 Respiration.
- .3 Digestion. Absorption. Nutrition.
- .4 Secretion. Excretion.
- .5 Animal Heat.
- .6 Reproduction. Development.
- .7 Function of Motor and Vocal Apparatus and Skin.
- .8 Nervous Functions.

613 Personal Hygiene.
- .1 Air and Light.
- .2 Food. Dietetics.
- .3 Beverages.
- .4 Cleanliness of Body. Clothing.
- .5 Human Habitation and Resort.
- .6 Hygiene of Employment.
- .7 Hygiene of Recreation and Sleep.
- .8 Hygiene of Nervous System.
- .9 Hygiene of Offspring. Heredity.

614 Public Health.
- .1 Registration and Vital Statistics.
- .2 State Control of Medicine.
- .3 Adulerations. Inspection of Articles Liable to affect Public Health.
- .4 Contagious and Infectious Diseases. General.
- .5 Contagious and Infectious Diseases. Special.
- .6 Disposal of the Dead.
- .7 Hygiene of the Air and Ground. Nuisances.
- .8 Protection of Human Life from Accidents, Casualties.
- .9 Hygiene of Animals. Veterinary Sanitation.

615 Meteria Medica and Therapeutics.
- .1 Materia Medica. Drugs.
- .2 Inorganic Drugs.
- .3 Organic Drugs.
- .4 Practical Pharmacy.
- .5 Therapeutics. Action of Medicines in General.
- .6 Administration of Medicines.
- .7 Medicines grouped by Effects.
- .8 Other Remedies.
- .9 Toxicology. Poisons.

616 Pathology Diseases. Treatment.
- .1 Diseases of Circulatory System.
- .2 Diseases of Respiratory System.
- .3 Diseases of the Digestive System.
- .4 Diseases of the Lymphatic System.
- .5 Dermatology. Skin Diseases.
- .6 Diseases of Genito-Urinary System.
- .7 Diseases of the Organs of Locomotion.
- .8 Diseases of Nervous System.
- .9 General Diseases.

617 Surgery.
- .1 Injuries.
- .2 Results of Injuries.
- .3 Orthopedic Surgery. Deformities.
- .4 Surgical Operations.
- .5 Regional Surgery.
- .6 Dentistry. Diseases of Teeth.
- .7 Opthalmic Surgery. Diseases of Eye.
- .8 Diseases of the Ear.
- .9 Operative Surgery.

618 Diseases of Women and Children. Obstetrics.
- .1 Gynaecology. Diseases of Women.
- .2 Obstetrics.
- .21 Pregnancy. Physiology.
- .3 Pathology of Pregnancy.
- .4 Parturition. Labor. Physiology.
- .5 Pathology of Labor.
- .6 Puerperal State. Physiology.
- .7 Pathology of Puerperay State. Puerperal Diseases.
- .8 Obstetric Operations.
- .9 Paediatrics. Diseases of Children.

While there are many things about this classification made by Mr. Dewey, which are very crude in the light of advanced medical science and which require revision, it is far better than anything a busy practitioner could build for himself. This is not the only classification in use by librarians. That of Cutter has some advantages to physicians,

although it has some defects. Dr. Wire, formerly in charge of the Medical Department of the Newberry Library and who is a physician as well as a librarian, has made some changes in the Cutter system. All three are badly in need of revision. This is a subject which should be taken up by the American Medical Association. A committee should be appointed to thoroughly study all existing medical classifications, and formulate a classification which is at once simple, systematic, comprehensive and scientific. Modern medicine is much in need of scientific classification, as can be demonstrated by the crude tables of contents and indexes which accompany our best books.

It is to be hoped that the Association will find some practical physician with knowledge of the requirements of a classification from the standpoint of the modern librarian, who will take the matter in hand and give the profession a modern, up-to-date and scientific classification, which can be used as a means of ready reference for our current medical literature. However, this classification answers very well for every day use.

I have two cards made for each original article, which appears in the Medical Journals which I take. On the first card the subject is first, the author second, and the Journal with its volume and date third. On the other card the author's name appears first, the subject second, and the name of the Journal with the volume and date third. The writing of these cards is simply a clerical matter, and anyone who can copy can do that work.

These cards are filed away in cabinet No. XXIV in the order of their numbers, each card having a number corresponding with the classification number given by Dewey. This brings all similar topics together and makes them readily accessible. For example, all articles on the subject of Appendicitis are in one group. I can refer to all the articles on a given subject in the current journals which I have taken during the past ten years just as readily as I can find that subject in a single book. In fact, by this plan my journal literature is just as accessible as my books, and is even far more helpful. This is especially true to one who prepares papers for medical societies, or is for other reasons interested in looking up the whole literature of a given subject.

It has been truly said that "To learn to classify is in itself an education." For this reason there is no more valuable work

Fig. XXiV.

Cabinet used for index of authors, classified index of current medical literature, classified histories of cases and operations.

than to classify these subjects. Adopting the Dewey classification gives a plan ready made, and it is only necessary to adapt your topics to this plan. By so doing all similar topics fall together. If one is too busy to do this part of the work himself, it does not take long for an assistant to learn to do it. In fact I have had several assistants who could classify quite as well, if not better, than myself. The assistant who will carefully classify your current literature for a few months, or years, will soon be found to be an unusually well posted man in current medical literature. Although it is still better if one can do this work for himself.

In conclusion I wish to acknowledge my obligation to the Medical Fortnightly of St. Louis, The Library Bureau of Chicago, and the Illinois Medical Journal, for the cuts used in illustrating this paper.

SURGERY OF THE PROSTATE.*

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Cases from May 18, 1901, to April 10, 1903.

The surgery of the prostate is rapidly approaching that of the appendix and gall bladder, in its significance to the surgeon and patient. Until very recently, it was not treated in the masterful and efficient manner in which other organs, as the uterus, tubes and stomach, were handled, surgically.

In presenting this subject to you today, I trust I will be permitted to emphasize the importance of the anatomical relations and physiological functions of the prostate mentioned in my recent article on the subject. I will, however, go more into the details of the clinical aspects of the cases.

The etiological factors, the symptomatology, the pathologic conditions of the bladder and kidneys at the time of operation, the technic of the operation and the immediate and remote results will, also, be treated somewhat in detail.

Experience has produced a number of changes in the technic, and as time advances, we are able to procure more speedy and complete recoveries than in our earlier cases. It is to me very gratifying to be able to report 31 consecutive cases of perineal prostatectomy without a single death due to the operation. The ultimate results have been more than I could have expected, and gratifying, as will be shown by a perusal of the individual histories with the later reports of the patients.

Since I called attention to the enlargement of the lumen of the prostatic urethra that sometimes occurs with prostatic hypertrophy, and advised the removal of a portion of its floor, with suture of the lateral walls in the median line to form a new floor, the recoveries have been more rapid and there has been no case in which extra-vesical accumulation of urine during micturation, with dribbling, has occurred. This extra-vesical pouch, or dilated prostatic urethra, can be readily recognized by the surgeon who carefully examines the prostatic urethra at the completion of his operation. It can, also, be demonstrated on the cadaver when prostatic hypertrophy is present. If this pouch is not recognized by the operator and properly treated, the operation of perineal prostatectomy will fail to produce that primary and complete relief which we desire to secure for the patient.

Fig. I.
Shows the relation of the prostate to the deep perineal fascia, the rectum, the bladder, the seminal vesicles and ureters. Protographed from dissection by Prof. W. T. Eckley.

It appears to me that supra-pubic prostatectomy will in the future be reserved for the exceptional cases of enormous hypertrophy of the prostate, or cases of pedunculated middle lobe with stone; that the Bottini operation will entirely disappear as a method of treatment for enlarged prostate, seems to me certain, for it is unscientific, inaccurate and hazardous in its technic and unreliable as to its permanent results.

I wish to express my appreciation of the

*Read at the 52d Annual Meeting, Quincy, May 21, 1902.

many interesting, instructive and unique pathological and clinical conditions of the prostate reported by G. Frank Lydston, from his rich material during the past fifteen years; also, for many valuable suggestions concerning the technic of his various operative procedures, the details of which he may mention, as he is to open the discussion on this subject.

ANATOMY.

The Prostate is a glandular and muscular body situated in front of the bladder, entirely behind the triangular ligament or deep perineal fascia (see Fig. I) immediately anterior to and in close contact with the rectum, and completely surrounds the prostatic urethra. It is tunneled by the prostatic urethra, the urethra occupying the second anterior fifth of the space, from before backward.

Five-sixths of the bulk of the normal prostate is behind the posterior level of the urethra (see Fig. II). Its greatest fixation is by its attachment to the posterior layer of the triangular ligament. When the ligament is divided, therefore, and the prostate freed from it, it permits of considerable latitude of motion. On the anterior surface it is rather loosely attached to the urethra; on the posterior surface it is firmly fixed to the urethra.

The mucous linings of its glands and of the ejactulatory ducts and prostatic sinuses are continuations of the mucosa of the urethra (see Fig. IV) so that it is not possible to remove the entire prostate without removing the prostatic portion of the urethra at the verumontanum (see Fig. II). It is possible to remove the lateral and posterior lobes of a hypertrophied prostate, allowing its isthmus to remain, and retain the anterior portion of the urethra and three-fourths of its circumference (see Fig. V, from Toldt). The anterior urethra is crescent shaped, its convexity forward; the posterior surface of the urethra vaults forward into this crescent, the elevation being made up of the caliculus, utriculus, ductus ejactulatorii and the connective tissue surrounding them, (see Fig. V) and the middle lobe, so-called, behind as shown in Fig. VI.

The middle lobe, in the normal anatomical condition, is a small, bullet-shaped, tongue-like projection from the base of the prostate, posterior to the urethra. It is not a lobe, when compared with the lateral lobes; it is merely a projection in the direction of the bladder from the posterior commissure, between the lateral lobes; and when the lateral lobes and posterior commissure are removed, it is practically detached except from the mucosa, as shown in case 7.

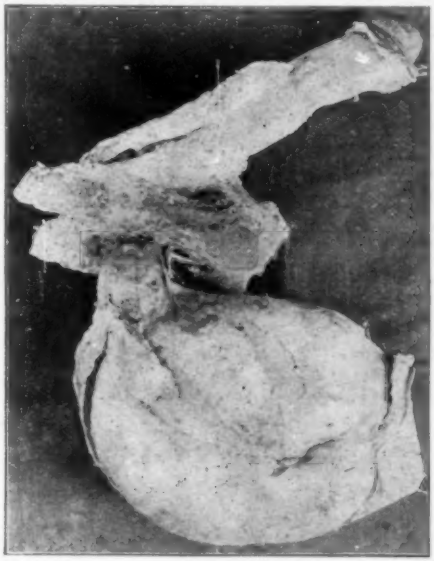

Fig. II.
Shows relation of prostate to perinealfascia bladder and seminal vesicles. Lateral vein. Photographed from dissection by Prof. W. T. Eckley.

The gland is surrounded by a distinct capsule (Fig. V) which is smooth over the lateral lobes, but is depressed into the gland and divided into layers around the vessels in the median line. This vascular area runs parallel with the urethra and directly in the center line. Capsular divisions, therefore, in the removal of the gland, should be made over the lateral lobes and parallel with the line of the urethra, that this vascular area may not be invaded until the lateral lobes are decapsulated and prepared for extirpation, and hemorrhage thus avoided. The seminal vesicles recede from the prostate (see Figs. III and IV) along the posterior

wall of the bladder and are closely attached to it.

The vesico-rectal peritoneum is a long distance from the base of the prostate, and in subcapsular enucleation its integrity is not in danger of being disturbed.

The arterial supply of the prostate is from the inferior vesical and middle hemorrhoidal arteries. These are subdivided at the inner margin of the capsule into small arterioles, and when the true capsule is peeled off they give rise to little hemorrhage. The veins which form a plexus in the capsule, empty into the vesico-prostatic plexus.

The lymphatic supply is meager; the vessels accompany the veinous plexus, and finally end in the internal iliac nodes. The nerves of the prostate are branches of the hypogastric plexus.

In its minute structure, the organ is made up of a stroma of connective tissue, smooth muscular fibers and glandular tissue (see Fig. V). The muscle fibers constitute about one-half of the entire mass of the gland (see Fig. V) and are continuous with the muscle fibers of the bladder wall above; below they are mixed with a small amount of voluntary muscular tissue, derived from the transverse perineal muscles (F. H. Gerish).

The glands are of the branched or tubular variety. They secrete a milky fluid, which at the moment of ejaculation is added to the seminal fluid, and appears to play an important part in the motility of the spermatazoa, as without the addition of this fluid, in some of the lower animals, fecundity cannot take place.

While in its normal anatomical position the prostate stands in front of the bladder and surrounds the urethra (see Fig. II) in its hypertrophied condition it has an entirely different relation to the bladder.

It normally extends backward onto the bladder only to the sphincter vesicae internus (see Fig. VII) which shows the bladder wall with prostate removed. In its pathologic or hypertrophied condition, it incapsulates the neck of the bladder in a cuff-like manner, extending many inches upward on its wall, and often protrudes into the vesical cavity, carrying on its surface the muscularis and mucosa vesicae; occasionally a pedunculated lobe may be extruded through the muscularis and only retain the mucous covering; this, however, rarely occurs except from the posterior lobe. In the normal anatomical condition, the muscular fibers of the prostate are continuous with the muscular fibers of the apex of the bladder wall, but as the prostate enlarges it extends cone-shaped and upward on and around the neck of the bladder, and its muscle fibers in the upper part appear to be distinctly separated from the muscle fibers of the bladder. This anatomic relation gives distinct assistance and guid-

Fig. III.

Shows the relation of the prostate to the prostatic and membranous urethra, as well as the relations to the bladder wall and the seminal vesicles.

ance as to the best method of removal or separation of the prostate from the bladder wall, i. e., at the extreme apex of the bladder it would be difficult to distinguish between the prostatic and bladder muscular fibers, while, if the base of the prostate be exposed, the prostate can be shelled from

the bladder wall, from above downward, with ease and with comparative safety to the integrity of the bladder wall, i. e., if we look upon the prostate as a cuff, closely attached at its apex to the bladder wall, and loosely attached at its base, we can see how its lateral lobes can be scrolled or rolled forward with ease, with the assistance of hook retractors, until it reaches the apex attachment, then it may be divided with the scissors.

Fig. IV.

Shows the relation of the urethral mucosa to the ejaculatory ducts and prostatic sinuses, and the relation of the prostatic substance to the prostatic urethra.

PHYSIOLOGY.

"At the cervix of the bladder the circular layer of muscular fibers is strengthened, and has been supposed to act as a sphincter, with regard to the urethral orifice; it is called 'sphincter vesicae internus' (at point a, Fig. 7). Around the urethra just outside the bladder is a circular layer of striated muscle which is frequently designated as the external sphincter, or sphincter urethrae" —Am. Text Book Phys., 1896.

When the urine accumulates in the bladder, to prevent its escape the elasticity of the parts, aided by the tonic contraction of the internal sphincter, suffice. This function of the circular layer of fibers, which composes the internal sphincter, is disputed by some observers. That this sphincter controls, absolutely the flow of urine, I have demonstrated conclusively on many of my cases after the prostate was removed, and the posterior prostatic urethra entirely removed with it. It was necessary in these cases to introduce a forceps or a catheter to allow the urine to escape from the bladder when the operation was complete, showing that the sphincter vesicae internus has complete control of the urine, without the aid of the sphincter urethrae, notwithstanding the statements of so many authorities to the contrary.

"When the accumulation in the bladder becomes greater, the external sphincter is brought into action"—Am. Text-Book Phys., 1896. This we have been unable to observe, as the extensive operation interferes with this sphincter. If the desire to urinate is strong, the external sphincter is undoubtedly controlled by voluntary effort, but whether

or not in mature filling of the bladder it is brought into play by involuntary reflex, is not definitely determined. Emptying the bladder may be prevented, if desirable, when it is filled, by voluntary contraction of the sphincter urethrae. According to Goltz, the voluntary control of the process of micturation is limited to the action of the external sphincter and the abdominal muscles. The contraction of the bladder is an unconscious reflex, taking place through a lumbar center.

"The mechanism of closure of the bladder has been the subject of much discussion. Retention of urine has been variously ascribed to the elastic resistance of the tissues at the neck of the bladder, or to the contraction of the external sphincter of Henle. Heidenhain and Colberg proved that the elasticity at the neck is not the only factor in closing the vesico-urethral orifice, as the bladder of the dead subject will not stand the same pressure as the living without leakage through the urethral orifice. If the lumbar spinal cord is disturbed, the condition in favor of the living animal is abolished, showing that it depends on the existence of the tonic contraction under the influence of this part of the cord. There is no doubt that the greater part of the resistence offered to the outflow of urine is occasioned at the vesico-urethral orifice, only a small part being offered by the urethra itself. Thus, in surgical operations, the urethra may be incised up to the neck of the bladder, without the escape of urine, and in the cat the urethra between the neck of the bladder and the prostate gland may be divided completely without any urine escaping.

Reyfisch has excised the prostate in dogs without producing incontinence. Experiments show that the resistence to the outflow of urine, is situated at the neck of the bladder, and must be due either to tonic contraction of the circular fibers at this point or to the elastic retraction of this orifice, aided, perhaps by the position of the mucous membrane along the whole length of the urethra. Great care must, therefore, be exercised, in any operation on the neck of the bladder, not to interfere with the zone of control in the act of micturation.

Fig. V.

Shows the horseshoe shape of the prostatic urethra, also the elevation of the floor of the urethra into the crescentic anterior wall which covers four-fifths of the entire circumference of the urethra. The fibers of the prostate extend into the verumontanum.

Not only is the sexual function diminished or lost by the removal of the prostate, but it is materially interfered with by prostatotomy, as in the Bottini operation. Guiteras says: "The patients are not always incapacitated for sexual life by the Bottini operation." From our observations, it

would appear that the prostate gland is placed over the neck of the bladder as a secondary muscular development. Its greatest bulk is made up of muscular tissue. It has situated within it a small glandular structure. The urinary control is entirely independent of the prostate, as has been shown in my cases; for, if the prostate was removed, the urine did not escape except in cases where the bladder wall had been torn in liberating or detaching the enlarged prostatic lobe. It is rather an accessory to the sexual function than to the urinary apparatus. G. Buckston Browne, says he believes: "That the prostate has no special urinary function whatsoever." W. H. Howell[4] says: "By careful experiments on white rats, Steinach has shown that the removal of the seminal vesicles and prostate gland, while not diminishing the sexual passion and the ability to perform the sexual act, including the actual discharge of spermatazoa, prevents entirely the fertilization of the ova. Removal of the seminal vesicles, alone, remarkably weakens the fertilizing power of the semen. The secretion of these accessory glands are essential to the mobility of the spermatazoa, and they may have other important functions." The function of the prostate is to contribute the prostatic fluid to the semen. The specific use of this fluid is not known. Erection without the prostate seems impossible.

ETIOLOGY.

Browne believes that we have no reliable data on which to base a theory of the prostatic enlargement. However, he says, when asked how to avoid the malady, "I would suggest plain living, exercise on foot, very moderate worship at the shrine of Venus after 50 years of age."

The age at which prostatic enlargement begins is variously estimated. L. Bolton Bangs[5] believes that it begins a considerable time before the 50th year, and that the earliest manifestations of prostatic hypertrophy are not generally recognized. Prostatic hypertrophy is extremely rare in Japan, India and China[6], while in Turkey it is of comparatively frequent occurrence.

Schultze[7] states that enlargement of the prostate is rarely found in the negro, although he describes one in which the middle lobe (obtained by autopsy) measured 5x7 c. m., and microscopic examination showed a marked hyperplasia.

We do not believe that excessive sexual indulgence plays any more part in enlargement of the prostate than in the production of fibroma of the uterus; and it is well known that, proportionately, fibromata of the uterus are more common in the unmarried than in the married. Then again, it is markedly absent in such races and nationalities as the Japanese, Chinese, Negroes and Indians.

Our exact knowledge of the etiology of enlargement of the prostate may be summed up by saying that "We know nothing definite about it."

Fig. VI.
Shows the tit-like projection of the middle lobe into the floor of the urethra.

PATHOLOGY.

Benign neoplasms and enlargements of the prostate resemble very closely in their histology, in their mode of development and in their relation to the organ itself, the non-malignant neoplasms of the uterus. First, they are: myomata, fibromata and combinations of these two, principally the combinations, and not infrequently there is a general hypertrophy of the entire gland, without any distinct tumor formation, resembling closely the soft, flabby, sub-involuted uterus (see Fig. XII, case 3). The enlargements are many times completely encapsulated, as shown in Figs. XVIII and XIX, case 7. In a great majority, however, they are closely connected with the prostatic tissue itself (see Fig. XVIII, case 7); just the same as in the intramural fibroid there is always

an enlargement and hypertrophy of the uterine tissue associated with myoma (see Right Lobe, Case 7, Fig. XVIII). In the lateral lobes, the tumors are more frequently intramural, as seen in Fig. XIX, case 7—next sub-mucous. In the middle lobe they are often pedunculated, rarely intra-mural, and practically never sub-capsular.

Wishard[8] draws particular attention to the mechanical part of the obstruction in hypertrophy of the prostate, and to the direction which the enlarged body takes, viz., towards the bladder, in the direction that while it does not cure, it at least prepares the patient better for the operation. His treatment consists of strict dieting, assisted by urotropin in full doses, to render the urine alkaline (sodium phosphate would accomplish this much better), and the administration of kava kava, triticum repens and uva ursa, associated with daily rectal injections of hot saline solutions and sitz baths. However, when the operation is resorted to, he favors prostatectomy, either by supra-pubic or perineal route.

The development of forceful and scientific

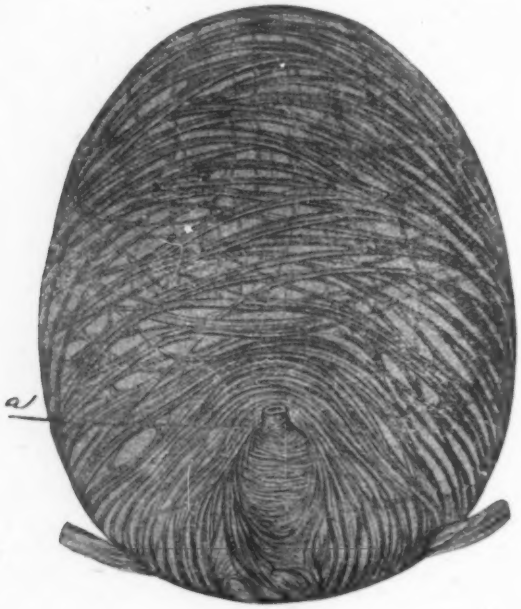

Fig. VII.
Shows the muscle fibers of the bladder and the sphincter vesicae internus (a) with the prostate removed.

of the urethra, or in the direction of the rectum, as the case may be. The size in one direction bears no particular relation to the size in the opposite direction. It interferes more or less with the urinary function, depending upon the direction of the pressure, whether it be upon the bladder, urethra or rectum, and the angle produced in the urethral canal.

MEDICAL TREATMENT.

James R. Hayden[9] strongly favors a conservative palliative treatment, and claims

procedures in the treatment of prostatic lesions has scarcely kept pace with the development of operative procedures in other fields of surgery. It has, however, though tardily, developed on the same lines with its analogous organ in the female, the uterus. Surgery of the prostate gland is now rapidly taking definite form on rational mechanic, anatomic and histologic bases.

During the last quarter of the century the sufferer presented a lamentable picture. Usually a man of great energy, strong men-

tality, physically robust, indefatigable in his labors, and by these qualities had gained a competence whereby he could spend his declining days in comfort and the pursuit of pleasure were it not for his prostate; by this he is deprived of his sleep, suffers intensely from pain, and sees no ray of hope for relief from his prostatic enlargement or its unpleasant sequences except in death. This picture may not fit the few, but it does fit the many, who suffer to a pathologic degree from prostatic enlargement.

Fig. VIII.
Shows the hook retractors applied to the prostate.

Temporary catheterization is resorted to for the relief of urinary retention, which comes on after some undue exposure, acute illness or traumatism, or what not which produces a temporary retention. This should be accomplished with all aseptic precautions, with the greatest gentleness in mechanical manipulation. It can always be accomplished where there is absence of stricture of the urethra anterior to the prostate. There is no such condition as prostatic stricture. The urethra is always patent in its prostatic portion, and the obstruction offered to the passage of the catheter is the obstruction due to deformity, pockets, prostatic sinuses and compression of the urethra by encroachments on its lumen from various directions by the enlargements or neoplasms in the prostate itself, as shown in schematic drawing Fig. IX. All of these occur on the posterior and lateral portions of the urethra; the anterior portion offers no obstruction. The ideal course of the catheter, therefore, is along the anterior wall of the urethra. It is only a question of proper manipulation and an estimate of the directions of the canal for the successful accomplishment of temporary catheterization. In this, force must play no part. It *should* and *can always be accomplished by those of skill*

and experience in primary urinary retention, and the patient is, therefore, never forced to an immediate operation on his prostate under these circumstances, because he is then often in an unfavorable condition for operative procedure. The soft rubber, with or without the lead stilet, and the Coudee catheter, preferably of large size, are the best instruments to use. In these primary retentions the bladder may be completely emptied without danger.

Continued or chronic retention presents to the surgeon many distinctly different, as well as dangerous phases. Under these circumstances the bladder is often enormously

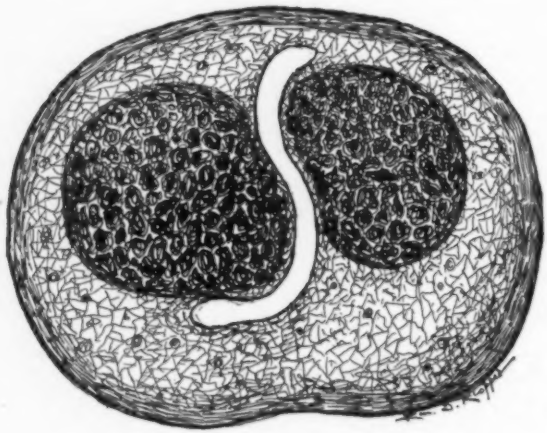

Fig. IX.
Shows the changes in the shape of the urethra produced by myomata.

enlarged; its veins are compressed, its walls anemic from pressure; its arteries are frequently dilated and advanced pelvic or peripheral renal changes may have taken place. Because of this protracted compression of the combined urinary surfaces, care must be exercised that this pressure is not too suddenly relieved, i. e., that the bladder is not completely emptied; otherwise, we have found by experience that there is an immediate congestion of the urinary surfaces often followed by hemorrhage, frequently by shock, chills, fever and death. A chronic sufferer from vesical distension should never have his bladder completely emptied in a primary catheterization.

PROSTATOTOMY (BOTTINI).

Ramon Guiteras[9] may be said at present to favor prostatectomy but he admits that a large portion of the cases are in such condition that no radical operation is justified. The Bottini operation in his hands has afforded this class of patients great relief. He has made a thorough investigation[10] of the Bottini operation and comes to the following conclusions: "It is difficult to conceive why an operation consisting simply in burning linear scars into the sides and floor of the prostate gland and followed by the casting off of sloughs, should cause such a reduction of the urinary obstruction, and such a contraction of the gland; clinical evidence, however, supports the truth of this statement." Incontinence of urine is rare after prostatectomy (Bottini). The cure of incontinence is not due to increased strength in the vesical sphincters, but to relief of the over-distended bladder, as the pre-operative incontinence in the sufferer is due to over-distension rather than lack of sphincteric tone.

There can be no doubt there is an immediate relief of the urinary retention and its most distressing sequences by the Bottini operation in properly selected cases.

Hugh H. Young's experience with the Bottini operation covers 40 cases[11]. Six

were lost sight of; 34 operations were performed on 31 patients, three patients having each two operations; the ages of these patients averaged very high, eighteen being over 67 years; of fifteen over 70 years of age, all are alive and well; three of the 31 died, two of these four and five weeks after the operation, from uremia; one from sepsis from a peri-prostatic abscess due to a 4.5 centimeter incision puncturing the capsule. In all there was an immediate relief of the urinary retention. Of twenty cases which were operated on a sufficient length of time to admit of deductions as to the result, 17 were cured, two improved and one unimproved. Of the eight others, the conditions were good up to the present time. All dispensed with the use of the catheter.

Dr. Bangs[12] in commenting on his results with the Bottini operation, says that 60 per cent of the subjects threw away the catheter; about 20 per cent have an increased amount of spontaneous urination; and 20 per cent received little or no benefit. He secures special advantages by the use of his solid tip metal catheter after the Bottini operation. In the 40 cases he reports, there were three deaths *directly attributable to the operation*. Two of these were from sepsis and one from shock. Notwithstanding these apparently favorable results[13], he pronounces the operation a serious one, and not to be lightly undertaken; that the danger is in proportion to the severity of the procedure; that the symptoms immediately following the Bottini operation are, frequent urination, with considerable pain; hemorrhage, either primary or secondary (in about one-third of the cases); fever in 30 per cent. and chills in 20 per cent.; and that the post-operative period, in which these symptoms are present, continues for from two to three weeks. Incontinence, an annoying symptom, was present in 6 per cent.; 9 per cent. were operated on twice, and 2 per cent. of these were not benefited by the secondary operation; in 20 per cent. there was no benefit. Guiteras[14] collected 753 prostatectomies; 622 were cured (85.5 per cent.); 44 died (5.8 per cent.); 87 were failures (11.5 per cent). J. W. S. Gouley[5] concludes that the Bottini operation has no advantages over the Mercier operation, which he introduced into this country in 1878, and has performed fifteen times. He believes that the operation of prostatectomy is the one indicated where the prostate is enlarged, whether soft or hard. S. Alexander[3] considers that the technic of the prostatectomy bearing his name is a most dangerous and difficult one, and he is disposed to discuss its failures rather than its successes. He considers the Bottini operation favorable in selected cases, and wishes to impress upon its adherents that the obstruction in prostatic hypertrophy is not intra-vesical, and, therefore, could not be observed with the cystoscope or searcher. Willy Meyer[5] believes that the width as well as the depth of the incision in the Bottini operation is important. He uses permanent Mercier catheter after the operation, and keeps the urine loaded with antiseptics. He considers that prostatectomy is the more surgical procedure and that the after treatment is much less difficult and arduous than after the Bottini operation. He also considers the soft prostate difficult to cure by prostatectomy.

The destruction of the prostate was accomplished by me a few times at the Alexian Brothers' Hospital by means of thermo-cautery through the supra-pubic route, with a vaginal rubber speculum inserted into the bladder, but the average results were not such as to encourage me in continuing the work, and I have abandoned it for perineal prostatectomy.

PROSTATECTOMY.

It is gratifying to note the advances that have been made by the medical profession in the operative treatment of prostatic enlargement in very recent times. Even so modern a man as Sir Henry Thompson said that he did not believe it was possible to operate on a case of enlarged prostate and have a result that would permit him to discontinue his catheter and still be able to empty his bladder and retain his urine. Now, we know that these results are of daily occurrence.

The indications for prostatectomy are: 1, prostatic enlargement to a pathologic degree, i. e., sufficient to prevent urination or cause large residual retention; 2, painful and fre-

quent micturation; 3, cure for catheter life; 4, cure for secondary cystitis; 5, for the relief of pressure on the rectum.

Fig. X.
Retraction hooks for drawing down the prostate.

It should be the operation of election where the patient is in condition to withstand the operative procedure and the local general conditions are favorable. The operation should not be considered nor used as a last resort. Local or spinal anasthesia should be preferred in selected cases.

SUPRA-PUBIC PROSTATECTOMY.

William T. Belfield of Chicago deserves the honor of being the first to follow a deliberate plan for the removal of the middle lobe through a supra-pubic incision. This was not an accident, as suggested by Mr. G. Buckston Browne, but was a deliberately planned and executed operation, as was well known to many of the Chicago profession at that time; the honor is incontrovertibly his, while Dittle's operation was not deliberately planned and executed, but was done in an emergency. Mr. A. F. McGill laid down more definite indications and lines of procedure three years after Belfield's original work, although we believe that it can be said that McGill had no knowledge of the Chicago surgeon's technic at the time he performed his first operation.

The supra-pubic route was the one uniformly followed in my ten years' service at the Alexian Brothers' Hospital. Either enucleation or cauterization was accomplished through a supra-pubic opening, by the aid of curved scissors, Kocher dissector, volsella forceps and the index finger. The middle lobe was readily and easily enucleated, but the enucleation of the lateral lobes through the supra-pubic route was always a difficult, bloody, dark and unsatisfactory procedure, though many times gratifying in its relief to the patient. In this technic there is practically no danger of opening the peritoneum, as the base of the prostate is situated fully half of the length of the bladder below the most dependent portion of the vesico-rectal folds, and is very movable at that point. There is danger, however, of lacerating the rectum.

Charles H. Mayo favors the supra-pubic enucleation of very large, middle and lateral lobes, and believes that the technic is more simple and results more favorable by this procedure, using supra-pubic or supra-pubic and perineal drainage, according to individual indications.

Proust[15] describes an elaborate technic for a sub-total prostatectomy with subsequent suture of the pedicles. The vasa deferentia and the slit in the urethra are also closed, while a catheter is left in place. The suturing of the vasa deferentia or seminal vesicles would seem to us a difficult task. Mr. P. F. Freyer[16] commenting on injury to the seminal vesicles, considers that it is a matter of little importance what becomes of

the ducts, and pays no attention to them. In speaking of hemorrhage, he claims in supra-pubic operations that when the gland is enucleated from the capsule there is little hemorrhage.

Mayo-Robson, years ago (1887-1894) enucleated and excised large masses of the prostate suprapubically, with very satisfactory results. The original operation of enucleation, however, he desires, through a personal letter to me, to be credited to Mr. Leonard Atkinson, to whom he says is due the credit of the first enucleation of myomata of the prostate. Mayo-Robson, in his able article, has left the stamp of his genius on this, as well as on all other branches of surgery to which he has devoted his attention.

Ramon Guiteras[14] collected 153 prostatectomies. Of these, 110 recovered, 72.3 per cent.; 25 died 16.4 per cent.; 17 were failures, 11.2 per cent.; and he concludes that the results in those that recover from prostatectomy are better and more permanent than those following prostatotomy. He believes, however, that great care and judgment must be used in the selection of cases, and submits the general rule that "the large glands are favorable for enucleation and the small ones are best treated by prostatotomy; and if the kidney be diseased, either medically or surgically, the Bottini should be resorted to."

Eugene Fuller[17] favors the supra-pubic route for the large prostates, and believes that the operation of enucleation can be performed cleaner and safer in that way; but, where the bladder wall is hypertrophied, he considers it much easier and safer to use the perineal operation.

From the fifteen cases of supra-pubic prostatectomy reported by Hugh H. Young[11], there were two deaths, neither of which, however, could be attributed to the operation. The ultimate results from the supra-pubic operation were very favorable. In this number he classes 11 as "complete enucleation of the prostate." (I believe, however, he means enucleation of the lateral and posterior lobes and not a complete prostatectomy.) Ten of the fifteen were classed as cures and two still suffer from cystitis.

W. Floyd McRae[11] strongly favors the supra-pubic operation, and reports three successful cases. He considers that there are special advantages in his ingenius "parachute" drainage method. One of his operations was on a case previously treated by the Bottini plan.

Harold L. Barnard[18] thinks that the success following enucleation of the prostate for adenomatous hypertrophy, which he considers the most suitable type, is not equaled by any other method of treatment, although he prefers the supra-pubic method.

William N. Wishard[6] strongly favors the supra-pubic Belfield-McGill operation, as modified by Fuller and Alexander. He believes it is the most direct means of attack, and gives the best results, as expressed in the following: "If the supra-pubic operation has been thoroughly done, and all obstruction removed, the patients afterwards are assured of more perfect function than by any other method." He thus expresses himself concerning the perineal operation: "The operation may be regarded as limited to drainage operations and to small pedunculated growths, and to the division of collar-shaped enlargements of small size."

PERINEAL PROSTATECTOMY.

Parker Syms[19] prefers the perineal route, because it appears to him the most direct. He believes that the median perineal incision should be made, and considers that he derived great advantage from his prostatic retractor in the twelve cases in which he used it. He favors the removal of the left lobe first, the middle lobe second and the right lobe last, and the use of a steel sound every third day after the operation. He forcibly advocates early operation. He operated on 9 cases; all recovered; in 8 there was complete restoration of function.

J. W. S. Gouley[20] favors the perineal route. The retractors of Gouley appear to have advantages, although I have not used them, as the hooks are so much more readily applied.

John A. Wyeth[22] believes the perineal operation the one of choice. Dr. Alexander agrees in this view, but makes the supra-

pubic incision so that he may force the prostate into the perineum. This is not necessary where the hooks are used, and the capsule and deep perineal fascia properly divided. Most of Dr. Alexander's patients were out of bed in five or six days. No aged patient, after any operation, should be allowed to lie flat on his back. He should be placed in a sitting position immediately, should occupy the recumbent position at night, and should be out of bed as early as the fourth or fifth day.

Alexander Hugh Ferguson[11] reported six cases at the Atlanta meeting, in which he removed the prostate by morcellement. He claims advantages for this method, and has a prostatic forceps so constructed as to "bite" out fragments of the prostate without danger of injury to the surrounding parts; he also has an intra-vesical depressor which he believes adds much to the ease with which the operation is performed. His six patients made good recoveries. He also calls them complete prostatectomies, while I believe he means lateral and posterior prostatectomy, allowing the portion of the prostate known as the "isthmus" anterior to the urethra to remain.

James Bell[23] beautifully illustrates with a case, a type of prostatic enlargement in which the Bottini operation would have served no purpose, and in which prostatectomy produced an ideal result.

Charles Whallen[24] favors spinal anasthesia for prostatectomy.

TECHNIC OF THE PERINEAL OPERATION.

The crescent shaped, or "A" shaped incision may be used. I now use the latter exclusively. I first divide the skin and superficial fascia down to the inner margin of the ischio-cavernosus; the handle of the scalpel is used to separate this muscle from the bulbo-cavernosus, and to split the fibers of the transversus perinei parallel to their long axis, until the handle of the scalpel reaches the capsule of the prostate. The same procedure is followed on the opposite side, then the finger of the left hand is inserted into the rectum and the median raphe is divided transversely with the scalpel until the prostate is reached. The capsule of the prostate is then divided clear across its presenting face, and the capsule and bladder are peeled backward to the base of the prostate; then a Sims speculum is inserted and the prostate is enucleated by pulling it forward with the hooks and separating it from the bladder from behind forward until the apex of the prostate is reached and divided with scissors it is then torn away from the middle line posteriorly. The right lobe is removed in a similar manner. Then the urethra is opened and the middle lobe enucleated and stones in the bladder removed. The redundant portion of the prostatic urethra is now cut off with the scissors and the opening sutured down to the space for the drainage tube. Perineum is packed with subiodide of bismuth gauze, and the skin is sutured down to the

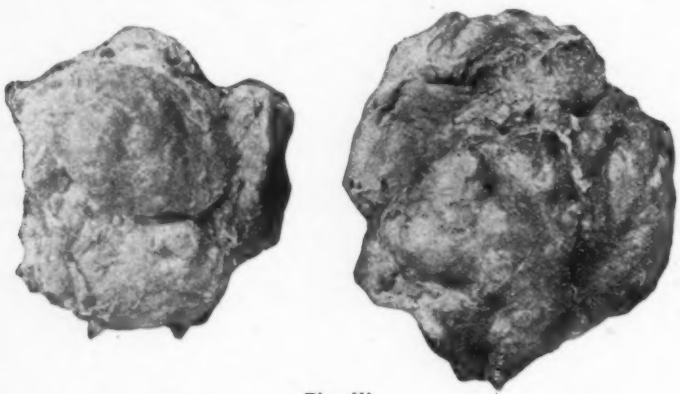

Fig. XI.
Shows photograph of prostate from Case II, reduced one-half.

drain as accurately as if it were an operation on the face.

By the perineal operation the wall of the bladder should not be divided nor torn, but the posterior wall of the prostatic urethra should be removed. The urethra should never be opened primarily, and the prostate should never be shelled away from the bladder from before backwards, but always from behind forwards, dividing the isthmus as the prostate rolls off from the bladder. To favor this, I have used, with the ordinary deep lateral retractors and Sims speculum as a posterior retractor, the hooks shown in Figs. X and XI. The hooks are utilized; 1, to draw the prostate into the field and retain it there; 2, to evert the prostate while it is being detached from above downward from the bladder wall. I find great advantage in using the handle of the scalpel down to the prostate on each side before dividing the septum. It insures safety to the rectum.

It is entirely unnecessary in the operation of prostatectomy to remove the whole anatomical structure, as is claimed by Freyer[13], as the anterior portion of the prostate, or isthmus, never shows any material encroachment and never produces urinary obstruction. It can, however, be as easily removed, if the entire enucleation be desirable, by the perineal route as by the supra-pubic, if the hook retractors be used as in the drawing. The hemorrhage is very much less by the perineal than by the supra-pubic route.

REMARKS.

The results have been more gratifying as time progressed and we became more familiar with the technic in the more complicated and difficult cases; but my first case has not been excelled by any subsequent case.

There are two cases of fistula of the urethra; in one of these there was an abscess of the prostate that had ruptured into the rectum a short time before the prostatectomy. It was not determined whether this case was tuberculous or not. In this case the rectum wall was adherent to the major portion of the wall of an enlarged prostate and great care had to be exercised to avoid injury of the rectal wall.

The capsule of the prostate should be displaced backwards with the rectum, to insure the integrity of the rectal wall.

The hemorrhage was quite profuse in two cases. This was controlled by placing haemostatic forceps on the bleeding points, which were allowed to remain for forty-eight hours, as in vaginal hysterectomy. The gauze packing with subiodide of bismuth is sufficient to control veinous hemorrhage.

The permanent urethral catheter has been abandoned in my later cases. It is not only unnecessary, but injurious. The perineal drain is retained until the urine is practically free from pus, usually in five to eight days it is removed. The bladder was not irrigated.

It is important to remove the redundant prostatic urethra, to avoid the tendency to perineal fistula; and the opening should be closed with catgut sutures, down to the drainage tube.

CONCLUSIONS.

(1) The perineal route gives the best ultimate results.

(2) It is accompanied by less danger than the supra-pubic or Bottini operations, as: (a) In hemorrhage; (b) sepsis; (c) injury to the neighboring structures; (d) less danger to life.

(3) The drainage is excellent, and favors rapid restoration of the bladder to its normal condition.

(4) The period of wound repair is much shorter than by the supra-pubic route. All the cases had primary union down to the drainage tube.

(5) The vesical control is almost uniformly good.

(6) The sexual power is destroyed.

(7) The relief of vesical irritation is great, and the frequency of urination is reduced to about normal.

CASE 1.—Mr. E. W. W., aged 55; occupation, financier; was referred by Drs. Henry Hooper and Archibald MacLaren. He was admitted to Mercy Hospital May 16, 1901, and operated on May 18, 1901. He was discharged June 26, 1901. Family history was negative.

Personal history: He has had specific urethritis; stricture followed; cured.

Present illness: Three years ago he began to suffer from increased nocturnal micturition, not associated with pain. This continued increasing in frequency and rest at night was much disturbed; then the frequency of urination in daytime became markedly increased. Finally, about two years ago, the catheter was first resorted to, which was used only every second or third day in the beginning. The vesical irritation, however, became greater and the quantity of pus in the urine increased until daily vesical lavage was resorted to by the attending physician, the catheter being used several times a day for the relief of urinary retention. A portion of the urine could be voided by strained efforts leaving about three ounces of residual urine. These symptoms continued up to time patient was admitted to the hospital. He was entirely incapacitated for work.

Examination: Urine examined shows a trace of albumin, some blood and a large amount of pus. Urea, 1.8 per cent.; sp. gravity, 1024. With difficulty a sound was introduced into the bladder. Prostate was very much enlarged; left lobe largest, median lobe pressed markedly forward. Patient is emaciated and very neurotic.

Operation, May 18, 1902. Perineal prostatectomy performed. Hook retractors used to draw prostate down. Ferguson's prostate staff introduced into bladder. Fuller's semilunar incision in perincum, through perineal tissues up to membranous urethra, extending laterally to rami and from lower margin of scrotum in center to level of anus at external ends. The two lateral lobes were removed first, then two small median lobes were shelled out after the lateral lobes were removed. Tube placed in bladder through perineal opening and soft rubber catheter inserted through penis; cavity packed with gauze.

Patient returned from operating room, pulse 82, complained of some smarting pain; was placed in a semi-sitting position, 40 degrees.

May 19: Pulse was 96, temperature 99.6. Patient rested fairly well during night; May 20: Pulse 90, temperature 100; rested fairly well. Good drainage through both catheter and perineal tube.

May 28: Pulse 88; temperature normal since May 20. Urine passed through tube 715 c.c., alkaline, sp. gravity 1015, cloudy; few hyaline casts, round, oval and spindle cells. Pus cells numerous; bacteria present. May 29: Pulse 88, temperature 98.2. Tube became obstructed and catheter also; latter was removed.

June 1: Pulse 98, temperature 100. Considerable pain in lumbar region. Tube removed and permanent catheter inserted. Patient has a mild pleuritic friction sound. June 4: Pulse 86, temperature 98.6. June 7: Pulse 80, temperature 98.6.

June 9: First voluntary urination through urethra; the day following practically all urine passed through this channel; full control, and painless. Patient is doing well; sitting up. June 17: Pulse 76, temperature 98.6. Patient is sitting up daily; 1320 c.c. urine voided in last 24 hours. Perineal wound healed. June 23: Pulse 78, temperature 98.6; patient went for a drive; feeling well. Amount of urine collected in 24 hours, 1375 c.c..

June 26: Pulse and temperature normal. Patient was discharged feeling well; has good control over bladder; urinates every two to four hours in daytime, but is not disturbed at night; no residual urine. Urine: sp. gravity 1005; urea .9 per cent.; no albumin; granular renal cells; few pus corpuscles. Not the slightest pain in urination.

February 4, 1902: Patient has perfect urinary control; can sleep the entire night without urinating. He says his urinary apparatus feels like it did when he was a boy.

In a letter received from this patient, February 25, 1903, he states that the perineal wound has remained closed and that he has complete control over the bladder. He holds his urine five or six hours during the day and is not obliged to get up to urinate during the night. Never has any pain in the wound, bladder or urethra and the urine is free from pus. Sexual function is markedly impaired. His general

health is excellent, his weight is normal and he says that his ability to attend to his business and enjoy life was never better.

CASE 2.—Mr. J. S., married, aged 54, merchant, was sick seven years; diagnosis of prostatic hypertrophy.

He was admitted to Mercy Hospital July 3, 1901, and operated on July 13.

Family history: Father died of tumor in throat in 1861. Personal history: Patient was born in Germany, but lived 44 years in America. General health was always good; appetite good, bowels regular.

Past illnesses: He had an infection in arm when 16 years old, and has running sore at present as result of same; chronic dysentery in 1865.

Present illness: For past seven years patient has been troubled with painful urination and inability to empty bladder. For past five years there were times when patient could urinate quite freely, but cold or exposure would make it extremely difficult. Two years ago he began catheter life, continuing it for thirteen months. He then received some electric treatment and dispensed with the catheter, although urination was very difficult and painful. Early this spring the symptoms increased in severity. He resorted again to the catheter, passed considerable pure blood at times. Patient states that as far back as seventeen years his bladder has been weak, and he did not have proper power of expulsion; has suffered extremely in an effort to abandon the catheter, using it but once in three weeks. The prostate is very much enlarged and almost fills the pelvis.

July 12: Chemical examination reveals a trace of albumin. Microscopic examination shows pus in quantity. Residual urine 3½ ounces.

July 13: Operation perineal prostatectomy. Ferguson sound introduced into bladder and held in position throughout operation. Two lateral and one middle lobe were removed. Large rubber drainage tube inserted into bladder. Wound packed with gauze; permanent catheter inserted through penis into bladder. There was considerable hemorrhage from the left side, which was controlled by a 6-inch hemostatic, which remained for twenty-four hours.

Patient returned from operating room in good condition; pulse 104, tempt. 97.4; strychnia sulph. and spts. amm. arom. were the only medication. (See Fig. XI, case 2.)

July 15: Tempt. 100.8, pulse 90, sixty hours after operation, then normal until July 26. Occasionally an infusion of triticum with cathartics sufficient to keep bowels open, and general diet. July 23: Perineal drain removed. July 25: Catheter removed. August 1: Tempt. 102, pulse 120; patient in great pain, caused by a mild epididymitis.

August 3: Tempt. dropped to 99.2, pulse to 100. Patient passed some urine through urethra. Aug. 9: Passing all urine through urethra and can hold it as long as two hours. Perineal wound closed. Aug. 12: Tempt. 99, pulse 100. Night sweats. Amount of urine, 700 c.c. Sp. gravity, 1017; urea 2 per cent.; trace albumin. Some squamous epithelium; some pus cells. Testicle still painful and somewhat swollen. Aug. 18: Tempt. normal, pulse 80.

August 22: Patient is discharged, with full control of urine and practically no pain in urination; R. H. Foster of Le Mars, Ia., reports as follows, Jan. 30, 1902: "The muscular fibers of the bladder have completely regained their lost tone, and he can propel the stream to a normal distance. The frequency of micturition, especially at night, has disappeared to such an extent that during the past three months he has not had any call to get up at night except while suffering from the orchitic attack, which I mentioned to you in my former letter. The power of retention has returned to a normal condition; also the lumen of the stream, which is remarkably full in volume and is neither flattened, forked or twisted."

In a report received from this patient, March 30, 1903, he states that the wound has remained entirely healed; he has complete control over his bladder and can retain his urine as long as he desires, never having to get up at night. He has not used catheter since the operation. He has no pain in the wound, but has slight feeling of contraction at the close of the act of mic-

turation. There is no blood or pus in the urine, but slight amount of mucus. Sexual function is wholly absent. His weight is normal, appetite good and he can follow the active pursuits of life with pleasure.

Case 3.—Mr. A. J., aged 67, merchant, was sick 2 years. He was admitted to Mercy Hospital Aug. 24, 1901, with diagnosis of prostatic hypertrophy and cystic calculi. Family history is negative. Personal history: Suffered severely from constipation. Past illnesses: He had malaria in 1860, and sciatica at intervals for past ten years.

Present illness: Began two years ago with frequent desire to urinate and vesical tenesmus; burning in perineum, hypogastrium and glans penis, which was relieved on urinating. Patient has been compelled to use catheter at intervals for past nine months. Three months ago a few drops of blood appeared at the end of urination. In the past few weeks patient has suffered severely from vesical spasm, which was not relieved by emptying the bladder. The prostate is very much enlarged. Stone detected.

August 24: Reaction of urine acid; sp. gravity 1013, small amount albumin; urea 1.4 per cent. Microscopic; epithelium, a few squamous cells; many red blood cells; pus in quantity. Residual urine 10 drams.

August 25: Operation. Perineal prostatectomy performed volsella forceps used to draw down the prostate. Forceps introduced into bladder and stone removed without difficulty. Rubber catheter introduced through urethra into bladder and secured. Large rubber tube introduced in the bladder through perineum and perineal wound packed with subiodid bismuth gauze, to suppress the oozing. Deep sutures of catgut used to bring structures into apposition. Interrupted silkworm gut sutures for partial closure of incision.

Patient returned from operating room in good condition. After nausea had ceased he was put on urotropin, 7 grains, t.i.d.; liquid diet.

August 27: Patient rested well; pulse 102, tempt. 101. Wound dressed; some oozing; bladder irrigated with solution of boric acid. Aug. 28: Pulse 80, tempt. 100; patient had some pain; wound dressed. Urine in bottle 720 c.c. Considerable urine lost on dressings. Aug. 29: Drainage free; patient easy; 900 c.c. urine. Aug. 30: Pulse 88; tempt. 98.8. Urine 1000 c.c. through tube.

August 31: Pulse 88, tempt. 99; patient delirious short time. Amount of urine 2000 c.c.; reaction acid; sp. gravity 1015; turbid; urea 2.4 per cent.; albumin in quantity. Small squamous epithelial cells; few red blood corpuscles. Considerable pus; bacteria present.

September 1: Pulse 84, temperature 98.8. Patient rational; suffering pain and stinging sensation. Sept. 4: Wound looks healthy. Pulse 80, temperature 99.6. Sept. 10: Pulse 78, temperature 98. Perineal sutures removed. Sept. 12: Pulse 70, temperature 100; perineal wound closing rapidly and looks healthy. Sept. 14: Patient had chill. Pulse 88, temperature 102. Syphon attached to catheter.

September 15: Pulse 80, temperature 98.8. Right testicle swollen, tender and painful; left epididymis indurated, which accounts for chill yesterday. Applications of ice. Scrotum suspended. Sept. 16: Pulse 78, temperature 99. Urotropin, grains 5, t.i.d. Swelling in testicle reduced. Urine examination: Sp. gravity 1015, clear; urea 2.2 per cent.; numerous pus cells, otherwise normal. Sept. 22: Pulse 78, temperature 100; patient rested well. Urine ceased to pass through perineal wound, allowed up daily. Nov. 7: Pulse 72, temperature 99; some pain but has partial control of urine.

From Nov. 7th to Dec. 19th, temperature remained normal. He had control of the urine, but could not hold it long without having a good deal of distress in the bladder. Dec. 3d: Permanent catheter inserted through the urethra, because of the frequent urinations and pain attending them. Bladder drained through catheter that day, but on Dec. 4th, catheter ceased to drain and the urine was passed through the urethra around it. Catheter removed on the 4th. Pain and frequent urinations continued with only short intervals of relief until Dec. 19, when it was decided to make a second peri-

neal section, to evacuate a small abscess which had formed in the perineum, and at the same time examine the condition of the deep urethra, and if possible determine the cause of the pain and frequent urinations.

Operation, Dec. 19, 1901: Median incision in the perineum an inch and a half long, with sound in the urethra. Small peri-urethral abscess evacuated. Urethra opened on sound, and finger passed through vesical neck, into bladder. No stone found in the bladder and no pocketing of the urethra. Wound packed with bismuth subiodide gauze. After operation, patient's temperature remained normal and he continued to suffer considerable pain in the perineum. From Dec. 20th to 25th, P. M. temperature ranged from 100 to 104 F. During this time urine was passed through urethra and incision, with considerable pain. Perineal packing removed from wound Dec. 23. From this date to Dec. 25th, temperature remained normal. Perineal wound continued to discharge pus and urine when bladder was emptied, and pain in this situation continued. Pus discharge was very slight December 30, but urine continued to be discharged in this way. Dec. 31: It was noted that very much more urine was discharged through urethra during the night than during the day. January 4, catheter was passed into the bladder and two ounces of boric acid solution injected. After withdrawal of the catheter, all of the fluid escaped through the urethra. January 5: It was noted that most of the urine was passing through the perineum, and only a small portion through the urethra. Pain in bladder and perineum was not now so severe as previously, until January 13th, when he began to have attacks of severe pain, which seemed to be caused by filling up of the bladder. Perineal wound remained open, but contracted to a small sinus, through which a little pus and urine escaped during micturation. On Jan. 25th, 1902, a third perineal section was performed and a *phosphatic* concretion removed from the bladder. Permanent catheter introduced through the urethra and perineal wound closed with silk-worm gut sutures, without drainage. On the evening of the operation, temperature was 101, but after the first twelve hours it did not go above normal. Permanent catheter removed Jan. 30th, at which time perineal wound had entirely closed. Feb. 7th: A small amount of urine was leaking through perineum, most of it being passed through the urethra. On Feb. 11th, most of the urine was passing through the perineum. When perineal wound was closed by pressure, he could retain urine forty-five minutes. March 3: Small white calculus the size of a split pea, was voided through the urethra. March 21: permanent catheter introduced into bladder and kept in for twenty-four hours. Another permanent catheter introduced April 7th, and retained until the 10th. Perineal wound still discharging some urine. On May 12th,

Fig. XII.
Shows lobes attached to each other. Reduced one-half.

an attempt was made to close the perineal opening by dissecting out the fistula and bringing the tissues into apposition. Bladder drained through permanent catheter for three days. On May 15th it was noted that perineal wound had entirely closed, and that patient had good control of urine through the urethra. On the 16th, wound still closed, control not so good. On June 20th, perineal opening permanently closed. Large sized catheter passed without difficulty into bladder through urethra. Patient discharged from hospital with wound closed and fair control of bladder June 26, 1902.

In a report received from this patient February, 1903, he states that the perineal wound has remained entirely closed. He has not complete control of the urine, and there is leakage through the urethra when he moves about. At night there is considerable leakage from the urethra. He complains of considerable pain in the bladder and rectum, most of the time. Urine contains pus. Sexual function is entirely abolished. Believe there is another stone in the bladder and he is to return to Chicago.

Case 4.—Mr. W. S. M., aged 58, married, farmer, was sick 8 years. He was admitted to Mercy Hospital Nov. 4, 1901.

Family history: Father died of rheumatism and heart complications at the age of 49 years. Mother died of Bright's disease at the age of 68. One sister died of throat and lung trouble, probably tubercular.

Personal history: Always moderate user of whiskey. Beer always seemed to aggravate present trouble. About nine years ago began to get up to urinate at night, but for last three or four years has been getting up three or four times; would pass small amount of urine each time. During first few years of the trouble urine showed heavy brick-red deposit on standing, but of late years has been clearer, with more offensive odor. Past sickness: Has had a right side inguinal hernia since 21 years of age; has had hemorrhoids for many years, but they have been worse since present trouble began, due to constant straining on urination.

Present illness: Patient was thrown from a horse and fell astride a ridge of dirt in the road, eight years ago. There was considerable tenderness in the perineal region after this injury. Skin was not broken, but parts were bruised. He was put to bed; had chills and fever for next twenty-four hours. He only remained in bed for a day or so and passed his urine, at the time, with effort. There was no blood in urine, nor in stools. Since that time he has been troubled almost constantly with bladder trouble. There has been vesical tenesmus when on feet; if in bed he can hold urine longer. Patient can start flow of urine without much pain, but at the end of the act there is a dull burning and a dribbling for some time. When trying to hold urine any length of time there is a sudden loss of half an ounce or so before he can control it. For a long time patient has had a cutting pain in end of penis when through urinating. The straining at the end of urination brings down a small tumor mass in the rectum not unlike a hemorrhoid. All of above symptoms have been getting worse for past four or five months. He was catheterized but once, and that last summer, by a home physician, to see if there was retention of urine. He never has had any chills or fever since injury, eight years ago. Patient has never been confined to bed, but has never been able to work; for, as soon as he walks or rides, he has the desire to urinate, with the pain following. State of nutrition good; appetite good; bowels constipated. Examination: Prostate enlarged to second degree; stone detected behind the prostate.

November 6, 1901: The patient was prepared for operation in the usual manner: Technic same as in previous cases, except the staff was dispensed with after the capsule was exposed, and the prostate drawn forward with the hooks shown in Fig. VIII. The hooks were found of great assistance, as they permitted an easy separation of the base of the prostate from the bladder, and rendered the staff needless. The stone was extracted after the removal of middle lobe.

November 6: Nothing to record but an intermittent pulse, which quickly responded to strychnia. The highest temperature and pulse rate were 101.4 and 104 respectively. Nov. 7: Patient rested well; complained of some pain in bladder. Average temperature

and pulse same as previous day. Nov. 10: Patient resting well. Temperature 99.6, pulse 89; urine 600 c.c. through tube. Nov. 11: Temperature 98.8, pulse 93; wound dressed with dry dressing; saline cathartics. Urine 690 c.c.

November 12: Temperature 100.8; pulse 99. Patient resting well; packing removed; no pus; catheter irrigation; all drainage found free; scrotum somewhat edematous; left testicle enlarged and tender; right slightly enlarged.

November 13: Temperature 101.5, pulse 97. Bladder irrigated. Perineal drain removed Nov. 14: Temperature 99, pulse 82. Drainage free; urine 900 c.c. Nov. 15: Temperature 98.6, pulse 83; resting. Urine 100 c.c. through catheter. Nov. 16: Temperature 98.9, pulse 81; patient perfectly easy; urine 2160 c.c. Nov. 17: Temperature 99, pulse 76. Resting. Catheter removed.

November 20: All urine passed through urethra. Perineal wound practically closed. Dec. 4: No vesical pain; he can hold urine four to six hours, and does not have to get up at night. Microscope reveals small number of pus corpuscles in urine.

In a letter received from this patient Jan. 30, 1903, he states that the perineal wound has remained entirely healed since the operation. He holds his urine about three hours during the day and for the same length of time during the night. Has slight burning pain in the wound at intervals; also a little pain in the bladder. This latter pain is getting better all the time. Sexual function is entirely abolished.

Patient says that his ability to attend to business and enjoy life is better than for many years.

Case 5.—Mr. P. T., aged 62, retired farmer, was sick 4 years and admitted to Mercy Hospital, Dec. 2, 1901.

Personal history and previous illnesses: Usual diseases of childhood. Malaria many years ago. La grippe seven years ago, since that time general health has not been as good as before, though fair. Appetite is good. Bowels somewhat constipated for past four years. No bladder nor kidney symptoms previous to present trouble. Venereal history is negative.

Present trouble: About four years ago patient began to have frequent urination; four times nightly, latterly eight or ten times; small amount of urine passed each time; total amount of urine passed was probably normal. Was treated by irrigation of bladder and local applications of electricity. Took diuretic tablets. About three years ago was unable to urinate and had catheter passed, but has not needed catheterization since until ten weeks ago, when he catheterized himself and has done so several times since that time. For past ten weeks he has irrigated his own bladder daily or oftener with boric acid in boiled water. About eight weeks ago he caught cold and had two quite severe chills followed by temperature of 103 to 104 lasting a day or two, and was confined to bed a week or more. Two days ago patient had slight chill and temperature of 100. Patient complains of no severe pain, but has had some discomfort about perineum and pain running into penis, aggravated by walking, standing and sitting. He has less discomfort when he drinks much water; has burning pain on urination, especially when passing small amounts of concentrated urine; has noticed brick-dust sediment in urine at intervals; has not noticed pus.

December 3: Pulse 84, temperature 98.8; 250 c.c. urine during night. Bladder irrigated with 1 per cent. sulpho-carbolate sodium in 1 to 4000 sol. formalin. Uranalysis: sp. gravity 1016; urine turbid; urea 2.4 per cent. Phosphates increased; indican present; no casts or albumin; many pus cells.

December 10: Bladder has been irrigated daily since admitted. Tonics and diuretics administered, also urotropin. The prostate extends backward, pressing the rectum, and the lobes seem to fill the pelvis to the rami on either side. A stone was detected in bladder with Thompson searcher.

December 11, operation: Technique same as in previous cases. Hooks used. Both lateral lobes, the middle lobe and a portion of the prostatic urethra were removed. The stone was removed with a lithotomy forceps introduced through the neck after completion of the prostatectomy. Rubber drainage tube passed into bladder through perineal opening; this was surrounded with bismuth sub-

iodid gauze as a packing. Wound closed except on left side, with silkworm gut; left side left open for passage of tube and gauze. Permanent catheter left in bladder through urethra.

Patient returned from operating room and was placed on back rest at angle of 30 degrees. Pulse was 78, low tension; temperature 97.4. He rested quietly and comfortably. Syphon and bottle were attached to drainage tube in perineum.

December 12: He rested very well; pulse 96; temperature 99.4. He drinks considerable water. Dec. 13: Pulse 88, temperature 99. Patient is drowsy and comfortable. Dec. 14: Pulse 82, temperature 99.2; quite comfortable; free drainage.

Fig. XIII.
Shows transverse section of right lobe from Case 7, illustrating the numerous small myomata in the upper portion and the hyperplasia in the lower.

December 15: Pulse is 84, temperature 98.4. Patient quite comfortable. Dressings changed three times; some of the packing removed. He voided 1530 c.c. urine through tube, and slept well. Dec. 16: Pulse 88, temperature 98.8. He voided 900 c.c. urine through tube. Slept ten hours; feels quite comfortable. Dec. 17: Pulse 88, temperature 99; 1200 c.c. urine through tube. Slept ten hours. Dec. 19: Pulse 80, temperature 99; 1500 c.c. urine through tube. Perineal tube and packing removed. Slept ten hours.

December 22: Pulse and temperature were normal since 19th. Catheter passed through penis. Passes small portion of urine through urethra. Wound in excellent condition. Jan. 1: Catheter with stylet passed. He passes urine by both perineum and urethra. Jan. 5: Wound is healing rapidly. No urine passes through perineum. He is up and walking around room. Patient feels quite well; has control of urine. Jan. 18: All urine passes per urethram; full control. Patient is discharged feeling quite well; can sleep all night without urinating. Urine acid, sp. gravity 1014; trace of albumin; some pus corpuscles.

In a letter received from this patient in October, 1902, patient states that the perineal wound still discharges some urine when he passes his water. He has not complete control over the bladder, as there is some leakage when he coughs or sneezes. He holds his urine three hours during the day and gets up twice during the night to empty the bladder. Has not had to use the catheter since the operation. Complains of a little pain along the urethra near the wound, when he urinates. Urine contains some pus.

Sexual function markedly impaired. Patient says he is able to attend to his business regularly and that his general health is good.

In a later report received from this patient, April 1, 1903, he states that there is still a sinus in the perineal wound, which communicates with the urethra and discharges a small amount of pus and urine when he urinates, or coughs violently. Control of urine is excellent, except when he

coughs or strains hard. At such times, there is some leakage. Holds urine two and a half to three hours during the day, and about four hours during the night. Has not had to use catheter since the operation. Patient suffers constantly from slight pain and discomfort in the perineal wound, and the irritation of the urine produces pruritis about the wound. No pain in the bladder or urethra. Urine is clear. The sexual function is completely abolished. General health is very good, and the perineal sinus causes him the only discomfort from which he complains. The latter part of March, patient had an acute orchitis which lasted ten days.

Case 6.—Mr. L. D. R., aged 70, widower. Father died at 88 of strangulated hernia. Mother died at 66 of cancer (?). Two brothers died of prostatic disease, with complications, aged 77 and 82. One brother died of pneumonia at 77. Four brothers living and in good health, aged 60, 64, 73 and 77. Three sisters died of female diseases, ages 50, 52 and 53. He has three sisters living and in good health, ages 60, 68 and 75. He came under observation of Dr. F. A. Turner, Sandwich, Ill., September, 1901, with symptoms of prostatic inflammation, which continued for several days until there was a *free discharge of pus from rectum,* when the symptoms subsided. He did not see him again until Nov. 11, 1901, when present attack began with severe pains in the prostate and a constant desire to pass water, being able to void but small quantities of turbid urine which contained considerable pus. On November 14 complete retention came on, and, notwithstanding the fact that a large amount of pus was discharged from rectum on night of 14th, the retention continued complete until the 22d, the date of the operation. He was catheterized every three or four hours. Amount of residual urine not obtained.

Operation was made November 22. Technic was same as in previous operations. Abscess was found in left lobe. Both lateral lobes were very much enlarged. Lateral and middle lobes were removed.

Post-operative history (kindly furnished me by Dr. Turner): During first six days after operation pulse varied between 114 and 99; temperature between 99 and 97.6; 1/30 gr. strychnia was given hypodermically every four hours. Liquid diet given every two or three hours. Bowels tympanitic and greatly distended during this period, for which he was given tinct. menth. pip. and asafetida, each 1 oz., in 3 pints of water through colon tube, with good results; this was repeated as required.

Bladder was irrigated daily through the drainage tube and the iodoform packing was removed on the sixth day. From the sixth to fourteenth day pulse and temperature were normal. Pus discharged freely from the tube, which was removed on the fourteenth day. Daily irrigation was continued and a fresh piece of iodoform gauze was inserted after each washing. Eight hours after the tube was removed (fourteenth day) he urinated per urethram. Strychnia was given per mouth up to the 20th, when it was stopped.

On December 20th urine passes through urethra and the bottom of the wound is apparently healed. The external portion of the wound is still kept open with a small piece of iodoform gauze. Urine is still turbid; contains pus and is ammoniacal; sp. gravity 1010. During the first week following operation there was a double epididymitis, which was relieved by elevating the scrotum and applying hot fomentations. Dec. 24: Patient is sitting up now and taking solid food. Jan. 5, 1902: Since last letter there has been a free discharge of pus from perineum.

January 16: "The wound in perineum has completely closed. He has control of his urine, which is clear and free from pus. He is not disturbed at night, and has fully recovered. I discharged him Jan. 14, cured."—Turner.

In a report received from this patient March 26, 1903, patient states that a sinus exists at the site of the perineal incision. This sinus evidently communicates with the urethra, as there is a discharge of urine mixed with some pus when bladder is emptied. Holds urine two to three hours during the day, and four hours at night. Has not had to use catheter since operation. No pain in wound except when skin becomes

irritated from urine. Occasionally he has some pain in bladder and urethra. Urine contains a little pus. Sexual function abolished. Patient is able to be around and attends to business. His weight is normal. This case was one of suppurative prostatitis and the abscess was present at the time of operation.

CASE 7.—Mr. C. G., aged 52, laborer, single, was admitted to Cook County Hospital Dec. 7, 1901.

Previous history: States he was perfectly well up to four days ago.

Present illness: Four days ago began having a dull pain in abdomen, which gradually increased until he was compelled to quit work and go to bed early in the evening; could not sleep that night; next morning vomited three or four times. He has had no appetite since then and "has not been able to keep anything on his stomach." About the time he began vomiting he commenced having trouble in urinating; would have desire to urinate, but could evacuate only a very small quantity, after severe straining. This desire to urinate would come on about a dozen times a day, always with the same result. Says he never had urinary trouble of any kind. Denies all strictures, gonorrhoea, etc. Bowels have not moved for four days. There is no pain in the penis; no cough; no headache or epistaxis.

On closer questioning admits gonorrhoea several times and says he has had a stricture. Statements seem unreliable. Denies syphilitic infection. Denies all previous illness. He was a hard drinker for thirty years; smokes to excess now. Friends of the patient say that he has been having "flighty" spells. Patient, himself, says he is "silly" at times, and has been since his parents died, thirty-five or forty years ago.

Examination shows: man past middle age; poorly nourished; in no apparent pain; indifferent to surroundings; mentality poor, so that little dependence can be placed upon his statements. Pupils equal, but contract slowly to light. Teeth covered with sordes; breath foul. Chest, heart and lungs negative. Tumor mass extending from pelvis above umbilicus, half way to ensiform cartilege; appearance that of seven month's pregnancy; uniform dullness over this mass; no fluctuation obtainable; no fluctuation; auscultation negative; tumor disappeared after catheterization. No stricture; slight urethal discharge in which are gonococci. A very much enlarged prostate, sensitive to pressure but not fluctuating. Has all the external manifestations of an intense cryptogenic infection. Patellar reflex is increased; ulnar reflex diminished.

December 7: Catheterized at 11 A. M. 64 ounces of urine obtained. 5:00 P. M. 68 ounces. 11:30 P. M. 52 ounces.

Fig. XIV.

Drawing from cut surface of middle lobe of prostate from Case 7, showing about the same histologic structure as the lateral lobe with distinct loosely attached capsule.

December 8, catheterized at noon; 45 ounces of urine obtained. Temperature 98.4, pulse 68. December 9, catheterized, 32 ounces urine obtained. Permanent catheter put in. Urinalysis: sp. g. 1018, reaction acid, no albumen or sugar; leucocytes numerous; granular and hyaline casts of large size. December 10: 38 ounces of urine removed; permanent catheter removed. December 12: gonococci found on smear of urethral dressings. Nothing of consequence to note up to date of operation. Patient was repeatedly catheterized and kept on general diet, with saline cathartics. Temperature and pulse ranged near normal, but presented all the time some typhoid conditions, apparently from some hidden sepsis.

Operation of perineal prostatectomy was performed by usual method December 20, 1902. Rubber tube put into bladder, packed around with gauze, and the skin tightly sutured with silk worm gut sutures. (Specimen shown in Fig. XIV.)

December 20: Patient returned from the operation with pulse irregular and weak; respirations shallow and sighing; skin warm and dry; cyanosed, temperature 101, pulse 98. Strychnine sulphate, gr. 1/30 twice daily. Figs. XVI, XVII, XVIII and XIX.

Dec. 21: Patient rested fairly well during the night; liquid diet; pulse 98, temperature 99. Pot. Acet. grs. 10, urotropin grs. 5, twice daily. Dec. 22: Patient slept most of the night; temperature 100.4, temperature 104. Dec. 23: Patient resting well; temperature 99.4, pulse 96. Dec. 24: Patient slept fairly well during night; pulse 96, temperature 99.4. Dec. 25: Pulse 96, temperature 99. Dec. 26: Pulse 100, temperature 101. Dec. 27: Patient slept only at intervals during night. Dec. 28: Temperature 101, temperature 102. Perineal drain removed. Dec. 29: Slept but little during night and refused medicine. Temperature 100.4, pulse 100. Dec. 30: Did not sleep during the night. Temperature 100.4, pulse 100. Dec. 31: Slept fairly well during the night. Temperature 99, pulse 98. Strychnine sulphate gr. 1/30, pot. acet. gr. 10, urotropin grs. 5, twice daily, with light diet. Catheter passed through urethra; bladder empty. Jan. 1, 1902: Patient slept fairly well during the night; temperature 99.4, pulse 108. Jan. 2: Patient rested fairly well during the night. Podophyllin et calomel, a.a. grs.1/2. Temperature 99, pulse 98. Light diet. Jan. 3: Temperature 98.8, pulse 88. Jan. 4: Slept at intervals, only. Temperature 98, pulse 96. Jan. 6: Permanent catheter. Jan. 10: Perineal catheter removed, wound almost healed and urine passed through urethra; general condition about the same as before the operation. All vesical symptoms disappeared.

The mental condition of this patient remained about the same after operation as it was before. The perineal wound entirely healed and he was able to retain urine for several hours. About six weeks after the operation he developed an acute lobar pneumonia and died before he left the hospital.

CASE 8.—Mr. H. H., aged 66, woodworker, was admitted to Mercy Hospital Dec. 16, 1901. Family history is negative. Personal history: Patient has always enjoyed good health until present illness, with the exception of a month's illness with bowel trouble twenty years ago. Patient's work has not been especially heavy, but it has been often in unheated rooms. Drinks wine and beer occasionally. Venereal infection denied. Constipation since onset of present trouble.

Present illness: Ten or fifteen years ago patient began to have frequent urination, passing only small amount each time. Some discomfort and a feeling that the bladder was not empty often followed urination. This condition was intermittent; was less common in summer than in winter, and was aggravated by exposure and by constipation. This continued, gradually becoming more annoying last summer. It was characterized by more discomfort than ever, and increased frequency of urination. Three weeks ago patient passed some blood, clotted and fresh, with his urine; was unable to pass water for a week thereafter, and catheterized himself from that time until now. The blood has disappeared, and he can not empty his bladder without catheter, there being about five ounces of residual urine. He urinates every two or three hours during the day and rises many times during the night.

December 17: Urinary examination shows sp. gravity 1017; urea 1.5 per cent.; few flat and round cells, considerable mucus; pulse 72, temperature 98.4. Dec. 19: Urine in 24 hours 1500 c.c., reaction acid, sp. gravity 1020; turbid, urea 1.3 per cent.; faint trace of albumin; few squamous cells and pus in quantity. Prostate very much enlarged, particularly on left side.

Operation on January 8, by ordinary method. Rubber drainage tube left in bladder through perineum. Permanent catheter passed into bladder through urethra. Strips of bismuth subiodid gauze packed around perineal rubber drainage tube. One hemostatic was allowed to remain for 36 hours. Wound closed except on left side by silkworm gut. Left side left open for passage of drainage and gauze. There was a moderate amount of hemorrhage. Patient returned from operating room warm and in fine condition. Back rest was placed under patient at angle of 30 degrees. Pulse 78, temperature 97; slight nausea, free perspiration.

January 9: Considerable discharge of urine, some blood. Pulse 88, temperature 99.2. Tubes arranged from catheter and drainage tube to bottle. A portion of the packing was removed. Jan. 11: Pulse 80, temperature 98.4; tube and most of packing removed. Patient is resting comfortably.

January 14: Pulse is 80, temperature 99. Pulse and temperature have remained near normal since 11th. Perineal drainage tube and remainder of packing removed. Wound looks healthy. Urine passed voluntarily, principally by perineum. Patient comfortable, sitting up in bed most of the time.

January 16: Pulse 78, temperature 98.6. Urine passes through perineum. Patient rests well and feels comfortable. Jan. 21: Pulse and temperature normal; 270 c.c. urine in bottle. Wound clean and healthy. Jan. 23: Pulse and temperature normal. Catheter removed; some urine followed through urethra; most of it passes through perineal wound. Patient sleeps well and feels comfortable. Jan. 28: Patient gaining control of urine; most of urine passes through perineum, but quantity through urethra increasing. Jan. 31: Patient can hold urine several minutes after desire to void is felt. Most of urine passes through urethra; small amount through perineal wound. Patient walking about and very comfortable.

February 4: Patient has walked to dressing room. Wound is closing; very little urine passing through it. Control of urine increases daily. Feb. 7: For past three days urine has been very well controlled; almost the entire amount passed through urethra. Occasionally a small amount is forced through perineal wound. Patient feels fine. Feb. 8: A few leucocytes are in urine; acid in reaction. He passes all urine through urethra and has good control.

In a report received from this patient February, 1903, he states that the perineal wound had remained entirely closed since the operation and that he has complete control of the bladder. He holds urine four to six hours during day and is obliged to get up only once during the night to urinate. Has not had to use the catheter and suffers no pain in bladder, urethra or wound. Urine contains no pus or blood. Sexual function is almost entirely abolished. General health is excellent and he is able to attend to business and enjoys life.

Case 9.—Mr. C. D. Age 67 years; admitted to Cook County Hospital, January 28, 1902.

Personal history: Infectious diseases of childhood. No history of gonorrhoea. Had sore on penis fifteen years ago and this was followed by sore mouth and sore throat.

Present illness: About five years ago first experienced some difficulty in passing urine. Frequency of urination was increased and he had some pain in bladder during the act, with straining and a sense of pressure at its close. Pain persisted for about one week and then disappeared, but the straining and frequent desire to urinate have persisted to the present time. Urinates about once every three hours during day and night, unless he uses the catheter and completely empties the bladder. After using catheter can often hold urine ten hours. He commenced using the catheter last September and since then has continued its use daily. Right testicle has been swollen for past few days.

Examination: Small stature; poorly nourished. Chest and abdomen negative. Prostate only very slightly enlarged, by rectal examination. Urinalysis; acid, turbid, trace of albumen, no sugar. Pus cells numerous. Residual urine in bladder 4 ounces.

From date of admission to Feb. 7th patient was given urotropin grs. x t.i.d.

Operation: Feb. 7, 1902: Perineal prostatectomy performed. After removal of the prostate it was observed that a fold of mucous membrane protruded from the base of the bladder just posterior to the internal orifice of the urethra, forming a sort of valve to the urethral opening. This fold was cauterized in the median line with Paquelin cautery. Permanent catheter inserted through urethra into bladder and perineal drainage tube introduced below. From Feb. 7th to Feb. 15th, A. M. temperature ranged from 98.6° to 101° and P. M. temperature from 100° to 103° F., with pulse 92 to 112 After nausea from anasthetic subsided he was given urotropin grs. v and sodium phosphate grs. 20, every four hours. Bowels did not move until the 13th, though he was given calomel daily in doses of gr. 1/4 hourly for four hours. Perineal packing was removed Feb. 9th, the perineal drainage tube, Feb. 15th and the permanent catheter two days later. Temperature from Feb. 15th to March 3d remained normal. From March 3d to 13th it was irregular, ranging in the afternoon from 98.6° to 100° F., and on one occasion the 10th, after a slight chill, it rose to 101.8° for a few hours. These temperatures were probably due to some absorption from the urethral tract, as there was nothing else to account for them. After the 13th and until the date of his discharge, April 9th, temperature remained normal. Perineal wound gradually closed and control returned until on March 18th control of the bladder was complete. At the date of his discharge from the hospital he was able to hold his urine three to four hours. For about two weeks after the operation, patient suffered

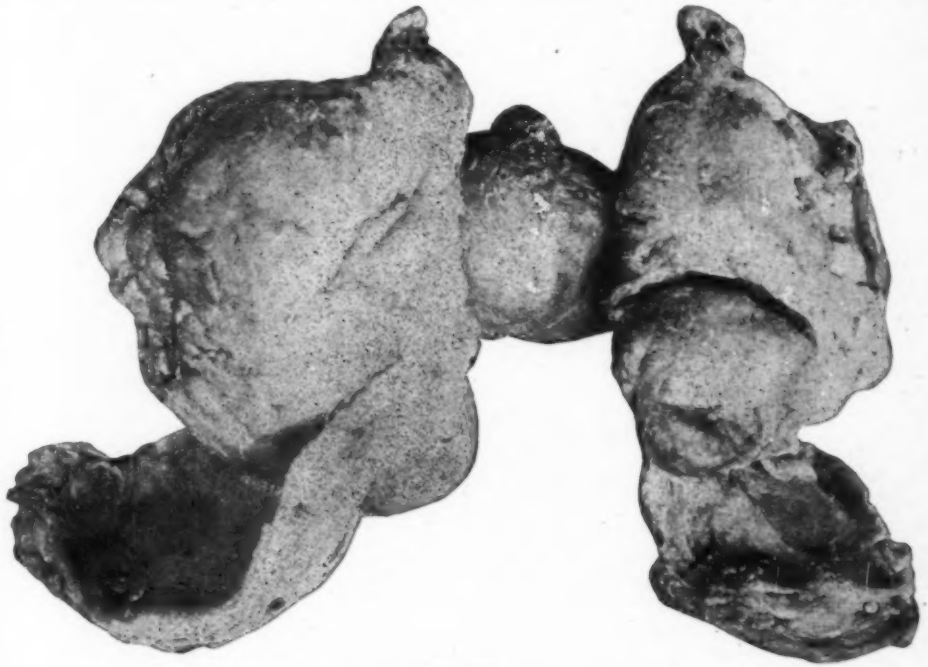

Fig. XV.

Case 7 (b).—Left lobe shows enormous hypertrophy of prostatic tissue around a small myoma.

from partial fecal incontinence when bowels were loose. Complete control however was rapidly regained. This patient has been lost sight of since he left the hospital, so it is impossible to report the ultimate result.

CASE 10. Mr. G. Age 69 years. Married. Admitted to Mercy Hospital February 13th, 1902.

Family history: negative. Personal history: negative.

Present illness began eighteen months ago with difficulty in starting urine, passage of a small stream through the urethra and shortly afterwards complete inability to pass any urine, so that he had to be catheterized. This lasted for six weeks, not constantly but at intervals. Occasionally patient passed a little blood in the urine. Has used a catheter continuously since last August.

Examination of patient: Medium stature; poorly nourished. Rectal examination shows lateral lobes of prostate only slightly enlarged. Passage of sound through urethra shows that the prostatic urethra is pushed far forward, evidently by a large middle lobe, necessitating the use of a very sharply curved sound to enter the bladder. No stone found.

Because of the evident enlargment of the middle lobe, and slight hypertrophy of the lateral lobes, it was decided to do a suprapubic cystotomy and remove a portion of the middle lobe through this opening.

Urinary examination: Acid, 1011, cloudy, trace of albumen, no sugar, no casts, many pus cells, few red blood cells.

Operation, February 15th, 1902: Suprapubic cystotomy by median incision through skin down to fascia, extending from symphesis upward for an inch and a half. Attachment of rectus muscle to os pubis divided on each side for half an inch, close to the pubic bone. Bladder now drawn up with forceps and opened. Anchor sutures introduced on each side and interior of bladder explored. Large middle lobe found protruding into the bladder, pushing the urethra forward and obstructing its internal orifice. Paquelin cautery now used to cauterize this middle lobe deeply, the lines of cauterization extending through the neck of the bladder into the prostatic urethra. Several sutures were inserted through fascia of rectus and bladder wall, to hold the bladder up and close the pre-vesical space. Rubber drain inserted into bladder, and permanent catheter put in through urethra.

Temperature on afternoon of day of operation 103.8°, pulse 112. From February 15th to February 18th, P. M., temperature ranged from 99.8° to 103.8°, gradually declining each day. It reached normal February 22d and remained so during the remainder of his stay at the hospital. All of the urine drained through the suprapubic tube until February 20th, when the tube was removed. After this, the wound closed slowly. Patient sat up for first time February 23d. On February 27th, he passed some urine through the urethra, for the first time, and on February 28th, almost all of it was coming this way. March 17th, urine was still discharging through a small suprapubic sinus so a catheter was introduced through urethra and retained for several days. Catheter again introduced March 29th and retained for ten days. After this date suprapubic sinus would heal and break open at intervals until April 26th, when it closed permanently. He was discharged from hospital with symptoms relieved and suprapubic wound closed, April 30th, 1902. It has been impossible to trace this patient since he left the hospital, so ultimate result cannot be given at this time.

CASE 11.—Mr. E. G. Age 65 years; farmer. Admitted to Mercy Hospital Feb. 26, 1902.

Family history: negative. Personal history: Patient was never married. Denies venereal history. Moderate user of alcohol.

Present illness: About ten years ago patient first experienced some difficulty in passing his urine. There was no obstruction to the urethra, but the difficulty was in starting the stream. This trouble continued about the same until two years ago, when he "caught a severe cold," which caused increased frequency of urination with pain and straining when the urine was passed. At this time he began using catheter and has continued its use daily ever since. During the day he could usually empty the bladder without the cathe-

ter, but the stream became very small and he had to urinate very frequently. Considerable pain at end of act. During the night he would have to pass catheter every two hours. About fourteen months ago a suprapubic cystotomy was performed, but patient does not know what the operation was for. Tubes were kept in the bladder for several weeks, and it took a number of months for the incision to heal. He received no benefit from the operation. Use of catheter has been continued, and of late he has had to urinate every hour.

Examination of patient showed suprapubic wound entirely healed. Prostate was much enlarged bilaterally, and quite firm in consistency. Thompson's searcher introduced into bladder showed that no stone was present. There was no real obstruction to the urethra except that offered by the enlarged prostate.

Urinary examination: Reaction alkaline, sp. gr. 1016. Albumen present; many pus cells; no casts.

Operation March 1, 1902: Perineal prostatectomy performed. Permanent catheter used, also perineal drainage tube. Temperature on afternoon of day of operation, 100° F., pulse, 78. March 2d, complained of a good deal of pain in wound. P. M., temperature 100.2°. March 5th. Perineal tube and gauze packing removed. Permanent catheter retained. Temperature from March 2d to 7th: mornings, normal and from 99° to 100° F. in the afternoons. From the 8th to the 15th of March temperature remained normal all day. Sat up in chair for first time March 13th. March 15th evening temperature registered 102.2° without any special cause which could be found. Catheter removed March 17th. Between March 15th and 18th the P. M. temperature gradually declined and remained practically normal until the 26th, when it again went up to 102.8°, without the development of any complication to account for it. From March 26th to April 10th morning temperature was normal, but almost every afternoon it went up to 101° or 102° F. During this time the perineal wound was closing rapidly and there was no inflammatory condition around it. Bowels were kept moving several times every day with a morning dose of magnesium sulphate when necessary. A diarrhoea developed on March 19th and it was necessary to give the patient large and frequent doses of bismuth subnitrate to check it. On March 28th the perineal wound had entirely closed and there was no urinary leakage from it. He was now put on urotropin in doses of five grs. t.i.d., and bladder was irrigated daily with 1:4000 formaline. Perineal wound leaked a small amount of urine April 4th; April 5th a permanent catheter was put in for twenty-four hours, and then removed because of the urethritis produced. At this time patient could hold the urine from an hour to an hour and a half and had but little pain when he passed it. Discharged from hospital April 17th.

In a report received from this patient March, 1903, he says that the perineal wound has remained entirely healed since he left the hospital. He has complete control of the bladder and holds the urine from one and a half to two hours during the day and about the same length of time during the night. Of late he has occasionally used the catheter at night. Complains of some pain in the wound and along the urethra. Urine contains some pus, but less than before the operation. Sexual function is completely abolished. Patient, while better than before the operation, still complains a great deal of frequent desire to urinate, straining and inability to completely empty the bladder. No obstruction to the urethra at present, and a large sound falls into the bladder without force. Bladder sounded for stone but none found.

Case 12.—Mr. X. Age 78 years. Was seen by me in consultation with Dr. Charles D. Lockwood, in Pasadena, Cal., March, 1902.

Patient had suffered with the usual retention of prostatic disease for the past four years, most of the time resorting to the catheter for relief. He had several ounces of residual urine. Urine contained some pus but no blood.

Examination revealed a prostate filling the transverse diameter of the pelvic arch. Operation advised and consented to.

Doctor Lockwood operated and I assisted. The enucleation was rapidly and easily ef-

fected in the usual way. Perineal drain and iodoform gauze packing.

The day following the operation the patient sat up in bed and said he had no special discomfort. There was primary union of the wound down to the drainage opening. In 23 days he was up and around town, with complete closure of the wound and full urinary control.

March 20, 1903, I saw this patient again with Dr. Lockwood. He was looking splendid and said he "did not know he had a bladder." He does not have to get up at night to urinate and goes as long as six hours in the day-time without urinating.

CASE 13.—Dr. F., age 60 years; physician. Admitted to Mercy Hospital, May 10, 1902.

Family history: negative. Personal history: Smokes moderately, has never used alcoholics to excess. Subject to bronchitis (for past twenty years).

Present illness: Three and a half years ago patient was suddenly unable to pass urine, and this persisted for two and a half weeks. During this time he had to be catheterized every day. For the next two years he was free from all trouble, except a slight dribbling at the end of urination and increased frequency of urination. He passed his urine ten to twelve times during the day and once at night. This increased frequency of urination became more marked until about one and a half years ago when he was obliged to pass urine fifteen to twenty times during the day and two to three times during night. He was unable to completely empty the bladder. For the past year he has used catheter once or twice a day and has not had complete control over urination.

Examination of patient: Prostate considerably enlarged, the rght lobe being much larger than the left.

Urinary examination: Quantity in 24 hours 2410 c.c. Acid, Sp. gr. 1010; trace of albumen. Microscopic examination: Many pus cells, no casts.

For three days before operation, patient was given urotropin gr. x, three times daily and bladder was catheterized regularly.

Operation, May 14, 1902. Perineal prostatectomy performed. Bladder drained through perineum by rubber tube and permanent catheter inserted through urethra. Cavity left by removal of prostate packed with subiodide of bismuth gauze. After operation; afternoon temperature ranged between 99° and 100.3° until May 23d, after which date it remained normal permanently. On May 15th patient developed an epididymitis and orchitis on left side, which persisted until May 21st and caused him considerable discomfort and slight elevation of temperature. The orchitis subsided without suppuration. The perineal packing was removed from wound, May 18th. Catheter removed May 24th, three days following removal of perineal tube.

Patient sat up in chair first time May 28th and every day after that he was up and around. Urine commenced passing through the urethra June 12th, the control gradually returning. Perineal wound entirely closed June 17th, but reopened again and discharged slight amount of urine on the 27th. After the 29th it remained closed permanently. Patient discharged from hospital July 4, 1902.

In a letter received from this patient, Sept. 23, 1902, he states that the wound below has remained healed and that he has no pain in the wound, bladder or urethra. Control of the bladder is good and there is no involuntary leakage except a few drops when he coughs or sneezes. He holds the urine three hours during the day and six hours at night. He has not been obliged to use the catheter since the operation. General health is as good as it ever was in his life and he attends to his business every day. The sexual function is completely abolished.

In a later report received, April 1, 1903, patient says: The perineal wound has remained permanently closed, and that he has complete control of the urine. He holds urine five hours during the day and nine hours at night. He has not had to use the catheter, has had no pain in the wound, bladder or urethra. No pus or blood in urine. Sexual function is abolished. General health is excellent, appetite good, patient "enjoys life thoroughly."

CASE 14.—Mr. C. B. B. Age 66, occupation farmer. Admitted to Mercy Hospital, May 9, 1902.

Family history: Negative. Personal history: Moderate drinker; had pneumonia 15 years ago.

Present illness: Began seven years ago with increased frequency of urination, seven or eight times during the night and about once an hour during the day. Bladder always felt as though it was not emptied at the end of urination. About four years after onset a doctor passed a catheter into bladder in order to evacuate it, as patient was unable to do so spontaneously. Except for this one time, bladder was not catheterized until just before he was brought to the hospital, when it again became necessary because of the patient's inability to pass the urine. Frequency of urination continued up to the time of this last attack, and he had considerable pain and straining at end of urination.

Examination: On admission to hospital patient presented a globular swelling in the abdomen extending upward to two inches above the symphisis. Rectal examination showed prostate considerably enlarged, the lateral lobes extending to the ramus of the ischium on each side. With the finger in the rectum as a guide, a stiff catheter was passed into the bladder and part of the urine withdrawn.

Urinary examination: Albumen +. No sugar. Few granular casts, many pus cells. For four days before operation bladder was catheterized every five hours, and ten grains of urotropin given t.i.d.

Operation, May 14, 1902. Perineal prostatectomy performed after the usual method. Permanent rubber catheter introduced and bladder drained through perineal tube.

Temperature on evening of day of operation; 99.2°. Four days later evening temperature was 100.4°, but except for this one day it remained normal during the remainder of his stay in the hospital. May 18th, perineal packing removed.

May 23d, permanent catheter removed. Perineal tube removed May 25th. On May 27th, patient had two voluntary urinations through urethra.

May 29th, sat up in chair for first time. Perineal wound gradually closed, but there was still slight leakage at the time of his discharge from hospital, June 19, 1902.

In a letter received from this patient, October 31, 1902, he states that the wound below has entirely healed. He holds the urine for two to three hours during the day and does not get up at all at night. Has not used catheter since operation and has had no pain in the wound or bladder. No pus or blood in the urine. He states that the sexual function is not materially impaired. He says that his health is better than it has been for ten years and he has gained twenty pounds since he left the hospital.

CASE 15.—Mr. E. S. Age 69 years, married. Occupation farmer. Admitted to Mercy Hospital, May 6, 1902.

Family history: Negative. Personal history: Negative.

Present illness: Began four years ago with sudden, agonizing pain, beginning in left lumbar region and radiating down along the spine. Pain persisted until patient received a hypodermic of morphine. A few months later he had another similar attack. After this was over, he passed several small calculi. He remained well for about two years following this attack except for occasional backaches. Sometimes after riding in a wagon he would pass blood in his urine. For the past year he has suffered from frequent urinations, three to ten times during the night and oftener during the day. Has had some pain along the urethra at the end of urination. A year ago he was unable to pass his urine, and had to be catheterized once. During the past six weeks, the stream has stopped suddenly several times.

Examination: With the Thompson searcher a calculus was found. Rectal examination shows the lateral lobes of the prostate to be very slightly, if any, enlarged.

Urinary examination: Sp. g. 1012, yellow, clear, no albumen, no sugar, no casts or pus.

Operation: May 28, 1902: Suprapubic cystotomy performed. Median incision above symphisis down to fascia, with transverse division of the tendon of the rectus on each side for about half an inch from the median

line. Bladder wall grasped with forceps and drawn up into wound. Bladder wall incised; anchor sutures inserted in each edge of incision, and interior of bladder examined with finger. Two stones found and removed. The middle lobe of the prostate was found to be considerably enlarged, projecting into the cavity of the bladder, pushing up the internal orifice of the urethra. A median incision was made through the bladder mucosa down to the substance of the middle lobe. The latter was then enucleated with the fingers and the mucous membrane sutured over the defect. The anterior bladder wall was now closed with chromacized cat gut sutures about the large rubber drainage tube which was inserted. Gauze drain placed in wound and upper part of skin incision closed with S. W. G. sutures. Permanent catheter not used. Temperature remained normal for thirty-six hours after operation. From May 29th to June 2d, afternoon temperature registered from 99° to 101°. From June 2d to June 11th, it remained practically normal. Bladder was catheterized every four hours. June 1st, rubber drainage tube removed and edges of wound brought together with adhesive straps. Patient sat up for first time June 4th, and left the hospital June 11th, with urine still coming through the suprapubic opening.

Case 16.—Mr. M. W. T. Age 68 years. Admitted to Mercy Hospital July 7, 1902.

Family history: negative. Personal history: Occupation was blacksmith up to fifteen years ago. Has not used alcoholics to excess. Had diseases of childhood. Parotitis and orchitis (right) at age of 29 years.

Present illness: Onset about twenty years ago. First complained of inability to pass urine and pain of a dull, aching type over the pubes when he attempted to urinate. Also had some sharp pain along the urethra when bladder was full. Six years ago was treated for "bladder trouble" and was catheterized. Since then has had a purulent discharge from urethra and some pus in urine. Has catheterized himself steadily for past six years. Condition has been worse during the last three months.

Examination: Rectal examination showed the prostate gland only moderately enlarged and soft. The enlargement was not so great as in many other cases of prostatic hypertrophy and pointed toward the probability of an enlarged middle lobe obstructing the urethra. Urine acid, turbid, albumen trace, no sugar, many pus cells.

Operation, July 9, 1902. Typical perineal prostatectomy performed. The lateral lobes were small and soft, the middle lobe projecting into the bladder and elevating prostatic urethra. Permanent catheter introduced through the urethra and the bladder drained through the perineum by means of a large rubber tube.

Temperature on afternoon of day of operation 99.2° pulse 90°. During the next three days temperature in the afternoon ranged from 99° to 100.4°. After July 13th temperature remained normal until patient left the hospital. This patient was not given any urinary antiseptics, as the urine contained only a small amount of pus and was not decomposed.

July 13th, permanent catheter and gauze packing removed from perineal wound. Tube left in bladder. Patient sat up in chair for first time.

July 15th: Perineal tube removed. After this patient began to hold urine in bladder, the sphincteric control rapidly developing as shown by the gushes of urine from perineal wound occurring at progressively lengthening intervals. The perineal wound was rather slow in closing and at the time of his discharge from the hospital, August 6, 1902, urine still came through the incision occasionally, especially after patient had been on his feet for a long time.

In a report from this patient received Oct. 20, 1902, he states that the perineal wound has entirely healed. He holds his urine during the day from an hour to an hour and a quarter; and at night about an hour and three quarters. He complains of some pain in the urethra and at the neck of the bladder when urinating. The urine contains some pus. The sexual function is entirely abolished. He is somewhat under his usual weight, though his appetite is very good. After this report was written the patient passed several small calculi from the bladder, after which

he was very much better and the frequency of urination improved to such an extent that he had to get up only four times during the night. Another letter, written Jan. 8, 1903, states that his improvement has continued and that his health at that time "was very good."

In a later report, March 30, 1903, patient states that the wound has remained permanently closed. He complains of some pain in the testicles and urinates during the day every hour and a half. He thinks that if the testicular pain were absent he could hold urine a much longer time, as it comes on only when bladder is full. Urinates at night every two or three hours and says he has to use some force to start the stream. Has not used catheter since operation. Urine is free from pus or blood. Sexual function permanently abolished. He says that his weight is normal, appetite good and that he is able to attend to his business and enjoys life.

CASE 17.—Mr. A. Age 52 years; occupation, teacher. Admitted to Mercy Hospital July 18, 1902.

Family history: negative. Personal history: No previous illnesses. Had the infectious diseases of childhood. Typhoid fever at 34 years of age.

Present illness: Patient has had enlargement of the prostate for the past eleven years. The principal symptom of which he complains is increased frequency of urination, both day and night. He has to void his urine every one half to two hours during the day and every two hours at night. No pain during urination, but bladder always feels as though it was not quite emptied. No pus or blood in the urine. Never had a catheter passed. General health excellent.

Examination of patient: Medium stature, well nourished, heart, lungs and abdomen negative. Rectal examination shows prostate to be moderately enlarged and very hard. Examination of urine, July 2, 1902. Quantity in 24 hours 1620 c.c. Specific gravity 1015. No albumen, no sugar. Microscopical examination negative, no pus or blood.

Operation July 23, 1902. Perineal prostatectomy performed. Perineal drain inserted into bladder; permanent catheter used. Temperature on the evening of operation 100.6°, pulse 84. From this time until Aug. 13th, patient a slight evening temperature, ranging from 99.4° to 101.5°. No complications developed at any time to account for this temperature. The gauze packing was removed after 48 hours and the perineal drain at the end of one week. The permanent catheter was removed Aug. 2d. On Aug. 3d the record shows that he passed urine both through the perineal wound and urethra. On Aug. 7th, the entire quantity of urine passed through the urethra for the first time, and after that date there was no leakage through the perineal wound. Discharged from Hospital Aug. 18th, 1902, with wound closed and urinary control good.

In a letter received from this patient Oct. 24, 1902, he states that he is in perfect health, that the wound below has remained entirely closed and that he has complete control of the urine. Urine is held during the day two and a half hours and during the night three and a half hours. He has no pain but complains of slight irritation in the urethra in the morning. The urine is negative, containing no blood or pus. Patient has had no erections since the operation. His weight has increased, his appetite is good, and he is able to attend to all of his duties.

In a report from this patient March 30, 1903, he says that the perineal wound has remained permanently healed and that he has complete control of the urine. Holds urine two and a half to four hours during the day and four or five hours during the night. He has not had to use catheter since the operation. No pain in wound. Some slight pain in urethra occasionally in the morning. Urine clear. Sexual function markedly impaired. General health excellent.

CASE 18.—Mr. W. P. D. Aged 62 years; married. Occupation, traveling man. Admitted to Mercy Hospital, Aug. 12, 1902.

Family history: Negative.

Personal history: Had diseases of childhood. Has always worked hard and has always been a moderate user of alcoholic liquors. No venereal history.

Present illness: Began about one year ago, suddenly, with inability to pass his

urine. Had to be catheterized. Since that time he has suffered from burning pain in the glans penis, a sense of weight in the pelvis and increased frequency of urination. He has to get up frequently at night and often can pass only a few drops of urine at a time. Also complains of dizziness and forgetfulness.

Examination: Medium stature, short and of heavy build. Rectal examination shows prostate to be enlarged, the enlargement affecting both lobes which are moderately firm in consistency.

Operation, Aug. 13, 1902. Perineal prostatectomy performed as in previous cases, except that after removing the lateral lobes of the prostate, sufficient of the urethral mucus membrane was left to suture over the permanent catheter, which was introduced through the penis. Bladder drained through perineal tube. Temperature on the evening of the day of operation 102.2°, pulse 100. After this until August 21st the afternoon temperature ranged from 100° to 101.6°, with no complications to account for it. Perineal drain and packing removed August 17th. Permanent catheter removed August 21st. Patient sat up in chair Aug. 24th, and on the same day he passed some urine through the urethra for the first time. After this date the amount of urine passed through the urethra increased daily, and the control was rapidly re-established. On Sept. 12th, perineal wound was entirely closed and remained so during the rest of his stay in the hospital. Patient was discharged from hospital Sept. 23, 1902.

In a letter received from the patient Nov. 22, 1902, he states that the perineal wound has remained closed and that he has good control of the urine. There is some scalding in the urethra when he passes his urine and some slight leakage through the urethra when he sneezes or coughs hard. He holds urine from two to three hours during the day and from three to four hours at night. Urine is clear and contains no blood or pus. His sexual function is greatly impaired and he has had no erections since the operation.

In a report received from this patient, March 30, 1903, he says that the perineal wound has remained permanently healed and that he has complete control of the urine. Holds urine from five to seven hours during the day and about six hours during the night. He has not had to use catheter since operation and has no pain in wound, bladder or urethra. Sexual function completely abolished. General health good, except that he has had a series of colds during the winter.

Case 19.—Mr. E. J. W. Age 60 years. Single. Photographer. Admitted to Cook County Hospital Aug. 24, 1902.

Family history: negative. Personal history: negative.

Present illness: The day before entering County Hospital, patient was troubled with frequent urinations. The night before he came in he had to get up fifteen times to pass his urine. Each time the amount was less, until, finally he could pass only a few drops. Desire to urinate was constantly present, however, and bladder rapidly filled. At time of admission was unable to urinate at all, and had to be catheterized.

Previous history: Had gonorrhea 20 years ago, several times. This was followed by "gleet." Says that he has had no urethral discharge for many years. Last winter was troubled with frequent urinations but had no retention. He had one attack of retention about a year ago, but flow started before it was necessary to use the catheter.

Examination: Bladder enormously distended, reaching almost to the navel. Patient is unable to pass any urine, except when he strains hard, and then only a few drops at a time are expressed. Rectal examination shows prostate to be greatly enlarged, and of a very firm consistence. It is tender to pressure. Both lateral lobes are affected.

Examination of urine: Amber, normal odor, acid reaction, sp.g. 1020, no albumen, no sugar, few red corpuscles.

Operation Aug. 26, 1902: Perineal prostatectomy; bladder drained through perineal tube. Gauze packing in wound; permanent catheter inserted. The two lateral lobes were removed, also small middle lobe. Temperature afternoon of day of operation 98.6°, pulse 100°. Urotropin, grs. v, and spts. aetheris nitros, xx ordered, t.i.d. From the 27th of August to September 6th the after-

noon temperature ranged from 99° to 101°, on one occasion, Sept. 4th, reaching 102° F. This temperature was due to a right-sided epididymitis and orchitis, which developed Aug. 30th and caused the patient considerable pain and discomfort. Gauze packing was removed Aug. 28th and the perineal drain one week later, September 1, 1902. Daily irrigations of bladder with saturated boric acid solution, ordered.

On Sept. 7th, pain in the right testicle became severe and temperature rose to 104° F. The swelling in the epididymitis was very sensitive to pressure and the entire cord was swollen and tender up to the external ring. Ice bag applied to scrotum. Perineal sutures removed. On Sept. 8th, temperature dropped to normal, and remained so during the rest of his stay in the hospital. Permanent catheter removed Sept. 17th, and patient was up and around Sept. 19th. Perineal wound closed rapidly and urinary control was quickly regained after the permanent catheter was removed.

Oct. 7th, wound closed completely. Oct. 8th, wound again discharging small quantities of urine during micturation. A very small sinus remained in the perineal wound until Oct. 17th. Oct. 21st, patient in excellent general condition and feeling well. He urinates a large amount every two hours, on an average, and usually without pain. Occasionally he has slight pain in glans penis during urination. Control is good, though after micturation there is some dribbling for a few minutes. Perineal wound is healed; no urine through it for the last four days. Previous to four days ago, the small sinus would occasionally open up and discharge a few drops.

Rectal examination shows only a slight thickening in the situation formerly occupied by the enlarged prostate. Examination of urine, Nov. 7, 1902; yellow, 1012, acid, trace of albumen, no sugar, moderate number of pus cells.

This patient has not been heard from since he left the hospital, so we cannot report the ultimate result of the operation.

CASE 20.—Mr. J. B. Age 60 years; married. Occupation, watchman. Entered Cook County Hospital, Sept. 29, 1902.

Family history: Negative. Personal history: Moderate user of alcohol. For past seventeen years has been a watchman and exposed to cold and wet. No serious previous illnesses, except inguinal adenitis on left side about thirty years ago.

Present illness: Began about September, 1901, when he commenced to suffer from frequent urinations. This gradually increased in severity and in a short time he was obliged to urinate every hour during the day and five or six times during the night. Often had trouble in starting urine, and was unable to completely empty the bladder. The symptoms were occasionally absent for several days at a time. Just after admission to hospital patient was unable to pass any urine for seventeen hours, and it was necessary to catheterize him. After this he was catheterized twice daily, until operated on. Before admission to surgical ward, patient had been treated in medical ward for chronic myocarditis and nephritis. The symptoms due to these lesions had almost entirely subsided before he was transferred.

Examination: Fairly well nourished. Small amount of fluid present in right chest at base, posteriorly. *Heart;* slight blowing murmur in third left intercostal space, systollic in time; compensation good. Abdomen: bladder distended, forming a rounded tumor above the symphisis. Rectal examination shows the prostate markedly enlarged and of firm consistency.

Urinary examination: Yellow, pale, 1013, albumen +. No sugar. moderate number of hyaline and granular casts, few pus cells.

Operation, Sept. 26, 1902; perineal prostatectomy performed. Both lateral lobes removed, with the middle lobe, which was about the size of a hazel nut. Permanent catheter introduced through urethra, and rubber drainage tube into bladder through perineal wound. Wound packed with bismuth subiodide gauze. From Sept. 26th to Oct. 15th, afternoon temperature ranged from 99° to 100.6°. On one occasion, Oct. 11th, it went up to 102.2°. Patient put on Diuretin, grs. xv, and infusion digitalis

drachm iv, every four hours. Sept. 29th, perineal packing loosened and partly removed. Urotropin, grs. xv, t.i.d., ordered and diuretin stopped. Sept. 30th, remainder of gauze packing removed. Oct. 1st, perineal drainage tube removed. Oct. 2d, daily irrigations of bladder with saturated boric acid solution, ordered. Oct. 4th, sutures removed. Oct. 6th, permanent catheter removed. Oct. 9th, patient developed some moist rales and rough respiratory sounds at right base posteriorly, above level of dullness, and two days later a friction rub was heard in right lower axillary region. On this date, temperature rose to 102.2°. From Oct. 15th to Oct. 21, temperature was normal and patient felt well. Oct. 23d, patient complained of dyspnoea and swelling of legs. Examination showed the presence of fluid in the right chest and also fluid in the abdomen. Lower limbs and scrotum were oedematous. Perineal wound almost healed, except at the left lower angle, where there was a small sinus, which discharged urine when patient micturated. On Oct. 23d, 1200 c.c. of fluid aspirated from right pleural cavity, and dyspnoea considerably relieved. From Oct. 4th until date of discharge from hospital, temperature remained normal except when abscess found in testicle Jan. 1st. Nov. 10th there was still a sinus in the perineum so catheter was introduced into bladder and allowed to remain, for a few days. Nov. 28th, oedema of legs has disappeared. Perineal wound has discharged no urine for several days until this morning, when it re-opened and discharged about a drachm. Some fluid still in right pleural cavity. After this, wound closed and re-opened at intervals. Urinary control all of this time was good, and he was able to hold his urine from two to three hours at a time. On Dec. 10th, patient developed a slight swelling and tenderness of right epididymis. This epididymitis remained latent for nearly four weeks, and during this time caused him very little inconvenience except some slight pain and tenderness. After about four weeks these increased, fluctuation developed and an abscess was evacuated. After this, abscess cavity rapidly contracted and closed. Patient discharged from hospital with perineal wound closed, Jan. 13, 1903.

In a report received from this patient April 2, 1903, he states that wound has opened periodically since he left the hospital, discharging a little urine for a few days and then closing. No discharge from perineum for past week. His general health is good. He has excellent control of urine and holds it from three to four hours during the day, and from two to three hours at night. No pain at any time. The urine contains a few pus cells, but no albumen or casts. Sexual function is completely abolished, but not as a result of the operation, for it had not been present for a year and a half previous to the operation.

Case 21.—Mr. F. D. Age 68 years; occupation, farmer. Admitted to Mercy Hospital Sept. 26, 1902.

Family history: negative. Personal history: No serious illnesses. Never used alcohols to excess.

Present illness began fifteen years ago, when as he expressed it he "took cold in his bladder." At that time he had frequent urinations, but with very little pain. The stream would stop suddenly at times and there was slight burning in the bladder quite constantly. He also passed clots of blood. For the last nine years frequent and painful urinations have been complained of all the time. For the last five years he has used the catheter daily, of late seven or eight times during the day and six at night. Passage of catheter causes pain and he also has severe pain when any urine collects in the bladder. He also has considerable rectal pain when bowels move.

Examination: medium stature, fair nourishment, lungs and heart negative; abdomen, liver palpable to level of umbilicus. Rectal examination shows moderate prostatic enlargement, symmetrical; prostate hard and firm. The distended bladder can be palpated bimanually. Right testicle somewhat atrophied. Double inguinal hernia present. A Thompson searcher was passed into the bladder and a large stone found. Examination of urine: yellow color, turbid, fetid odor, alkaline reaction, large amount of albumen.

Microscopic examination showed large numbers of bacteria and pus cells. Temperature P. M. 101.8°. Given urototropin and sodium phosphate for two days before operation.

Operation Sept. 29, 1902. The prostate was removed through the perineum in the manner above described. After the removal of the gland, the finger was inserted into the bladder and the calculi located. Stone forceps were now passed into the bladder and five calculi, varying in size from a hickory nut to a golf ball were removed. The stones were facetted and fitted together. Permanent catheter inserted through penis and one catgut suture used to partly unite the mucus membrane of prostatic urethra over catheter. Perineal tube and gauze packing allowed to come out of the left angle of the wound. Temperature in the evening of day of operation 103°, pulse 124. Complained of severe headache and considerable pain in the wound. Bladder irrigated with 1:5000 formaline solution every six hours. Temperature on afternoon of Sept. 30th, 102° and pulse 102. Patient feels much better and suffers only slight pain. Urotropin, grs. v, methyline blue gr. ii and infusion of triticum repens ordered three times a day. From this date until Oct. 4th temperature reached 100° in the evening, and he complained of very little pain. On Oct. 3d the perineal tube and part of the gauze packing was removed. On Oct. 4th the remainder of the packing was removed. Drainage through catheter perfect. From Oct. 4th to 10th temperature was normal. On the 10th and 11th it reached 102° in the afternoon, but there were no other symptoms. After that date it remained normal permanently. Patient sat up in chair Oct. 8th and was up every day after that. Urine was passed through perineal wound for about a week after the permanent catheter was removed on Oct. 8th. On Oct. 16th he began passing the urine through the urethra and from this time on the perineal wound closed rapidly. The bladder irrigations which were used during the first few days after operation were discontinued Oct. 3d. The urotropin, methylene blue and triticum repens were continued while the patient remained in the hospital. Patient was discharged from hospital with perineal wound entirely closed and urinary control good on Oct. 24, 1902.

In a report received from this patient February, 1903, he states that the wound is entirely healed and that he has complete control of the urine. Holds urine three to four hours during the day and six to seven hours during night. Has not used catheter since operation; has had no pain in bladder or urethra and urine is nearly clear. Sexual function is entirely abolished. His health is first class, he has gained thirty-nine pounds in weight. Attends to business and thoroughly enjoys life.

Case 22.—Mr. P. D. Age 49 years; occupation, laborer. Admitted to Mercy Hospital Nov. 8, 1902.

Family history: negative. Personal history: Has used alcohol for many years, formerly to excess. Denies veneral infection. Present illness: About four years ago first noticed difficulty in urination. The urine was slow in starting, the force of the stream was lessened, and urine inclined to dribble. At first these symptoms were slight, but gradually increased in severity, until at present the urine is voided with great difficulty, and often he is unable to pass any urine for several hours. He has frequent desire to empty bladder and suffers great pain from the tension. During the passage of the urine he has burning pain in the urethra. Voids urine three to five times during the day and from five to seven times during the night. Has never used catheter.

Examination: Shows prostate to be considerably enlarged. No stone found in the bladder. Urinary examination: sp.g. 1030; yellow, no albumen, no sugar, no pus or blood.

Operation, Nov. 10, 1902. Perineal prostatectomy performed; permanent catheter not used. P. M. temperature on day of operation 99.2°, pulse 90. Nov. 11th, A. M. temperature 100°, pulse 88. Patient feeling comfortable and complains of but little pain. P. M. temperature 101.2°, pulse 100. Patient put on urotropin grs. v, t.i.d., and large doses of infusion of triticum repens. From Nov. 12th to 16th, temperature ranged, in the afternoon

from 98.6° to 101.8°. After that date it remained practically normal until he left the hospital. Perineal packing was removed Nov. 12th, and the tube Nov. 17th. On Nov. 20th it was noted that he had good control of the bladder, but passed the urine frequently. Nov. 22d, sat up in chair, for first time, and continued up every day afterwards. Patient discharged from hospital Nov. 10th, with perineal wound practically healed and with good control of urine.

Case 23.—Mr. J. W. Age 71. Admitted to Mercy Hospital, Jan. 4, 1903.

Family history: Negative. Personal history: Negative.

Present illness: For the past eighteen years patient has suffered from frequent urinations, especially at night, so that he has had to get up three or four times to evacuate the bladder after going to bed. For the past three months the difficulty in passing his urine has increased, and he has suffered from burning along the urethra during micturation. Three months ago he was unable to pass urine and had to be catheterized twice daily for eight days. Symptoms have been more severe since then and pus has been present in the urine.

Examination: Small man, poorly nourished, arteries sclerotic. Prostate considerably enlarged bilaterally.

Examination of urine: 1680 c.c. in 24 hours; 1008, yellow, turbid, albumen present, no casts, large amount of pus.

Operation, Jan. 7, 1903. Perineal prostatectomy performed. Right lobe of prostate showed uniform enlargement and left lobe, an adenoma about the size of a cherry, resembling a uterine fibroid. Both lateral lobes and central mass removed without opening the urethra. Urethra opened in median line and large drainage tube inserted. Permanent catheter not used. Wound packed with bismuth subiodide gauze. Temperature after operation 98.6°, pulse 128. Temperature evening of the 7th, 99.6°, pulse 120. Patient given strychnia gr. 1/60 and infusion digitalis drachms ii every four hours. Jan. 8th, P. M. temperature 99.4°, pulse 100. Jan. 9th, gauze packing removed from perineum. P. M. temperature 100.2°, pulse 114. Jan. 11th, P. M. temperature 99.6°, pulse 108. Patient complains of considerable pain in wound. Free bowel movements secured daily by the administration of magnesium sulphate.

Jan. 11th, as bowels did not move freely; he was given small doses of calomel followed by magnesium sulphate. Sodium and potassium bromide, a.a. grs. x, ordered for restlessness. Some slight mental confusion was noticed after patient was awakened from sleep. Patient extremely restless and complains of pain in the left lower portion of abdomen, which, was tender to pressure. Much flatus expelled. Jan. 12th, P. M. temperature 99.8°, pulse 104. Pain much less severe, and patient has had some sleep. In the evening restlessness returned and he was slightly delirious. Jan. 13th, mind still wandering; complains of pain in the wound. Bowels moving freely, and urine abundant. P. M. temperature 99°, pulse 106.

From Jan. 13th to 17th, temperature remained normal and pulse ranged from 94 to 110. He slept fairly well, and seemed very much better in every way. On Jan. 15th, he had desire to urinate, and a feeling as though urine was coming through urethra. Perineal tube removed. Was out of bed, on couch, Jan. 15th, and sat up in chair Jan. 16th. At this time appetite was good, wound looked healthy and temperature was normal. On Jan. 17th, while sitting up had an attack of ventigo with severe palpitation, temperature suddenly went up to 104° at twelve o'clock noon, and at the same time pulse was 134. Coincident with the rise of temperature patient became very stupid and had muscular twitchings on right side. P. M. temperature 103.8°, (ax), pulse 130. Muscular twitchings persisted and patient became irrational. Jan. 18th, A. M. temperature 101°, pulse 112. Mental condition better, and he slept some during the night. Desire to urinate, accompanied by a great deal of pain. P. M. temperature 101°, pulse 116. Muscular twitchings much less. Toward evening, twitching again became marked. Spts. Frumenti drachms iv given, also, pot. et. sodium bromide, a.a. grs. xxx, with chloral grs. x, per rectum. Jan. 19th, A. M. temperature 101.4°, pulse 126. Rational only

at intervals, bromides, chloral and spirits continued, without apparent effect. Saline enemas given, but not retained. Toward noon patient rested very much better. P. M. temperature 102.4°, pulse 136. Jan. 20th, A. M. temperature 100, pulse 120. Bladder irrigated twice with 1:4000 formaline. Bromides and chloral repeated per rectum. Gr. 1/2 codeine given hypodermically. P. M. temperature 102.6°, pulse 132. Complains of pain in bladder, and is very restless. Jan. 21st, A. M. temperature 105.6°, pulse 132. Had hard chill, for twenty minutes. Bladder irrigated with 1:4000 formaline, no odor from urine wound, looks well. Muscular twitchings in right arm and hand. P. M. temperature 103°, pulse 148. Involuntary discharges from bowels. Medicines by mouth discontinued, and strychnia sulph. and digitaline given hypodermically every four hours. Jan. 22d, A. M. temperature 102.8°, pulse 138. Twitchings continue. Patient delirious. P. M. temperature 104.4°, pulse 150; involuntaries. Entire body in a tremor. Jan. 23d, pulse weaker, patient restless. Twitchings continue. A. M. temperature 102.4°, pulse 168. P. M. temperature 104.6°, pulse 172. Respirations short and labored. Perspiring freely. Jan. 24th, pulse became so rapid after midnight that it could not be counted, and patient died about nine o'clock. Postmortem not made.

CASE 24.—Mr. A. B. Age 63 years. Occupation, farmer. Admitted to Mercy Hospital Jan. 10, 1903.

Family history: negative. Personal history: negative.

Present illness: Began three years ago when patient noticed that it took him some time to start urine and that the frequency of urination was increased to every two or three hours. Trouble was always worse in winter than in summer. Eighteen months ago he began to catheterize himself, passing catheter about every three hours. He has kept up this practice until the present time. Urination without the catheter is very painful and he is not able to completely empty the bladder.

Examination: Prostate considerably enlarged, the enlargement affecting both lobes, the left being larger than the right. Urinalysis: yellow, acid, trace of albumen, no sugar, pus cells abundant, no casts.

Operation, Jan. 12, 1903. Perineal prostatectomy performed. Both lateral lobes and central lobe removed without opening the urethra. The prostatic urethra formed a small pouch so that it was necessary to remove a portion of it and partially reunite the edges with cat gut. Bladder drained through perineal tube. Wound packed with bismuth sub-iodide gauze. Temperature on the evening of the 12th, 100.4°, pulse 100. From the 12th to the 15th afternoon temperature ranged from 100° to 100.4°; after the 15th it remained normal throughout his stay in the hospital. Packing removed on the 14th and perineal tube removed on the 18th. Urotropin grs. v started Jan. 14th and continued. Patient sat up in chair first time Jan. 25th. Feb. 6th perineal wound nearly closed, only a small portion of urine coming through it when voided. Patient discharged from hospital Feb. 11, 1903, with perineal wound closed and good control of bladder.

In a report received from this patient April 1, 1903, he states that the perineal wound has remained permanently healed, and that he has complete control of the urine. Holds urine about two and a half hours during the day and about the same length of time at night. Has not had to use catheter since the operation. Occasionally some pain in the region of the wound, after he has been on his feet. Urine contains some brown sediment. Sexual function greatly impaired. Has not had any erections since the operation. General health excellent. Weighs 190 pounds.

CASE 25.—Referred by Dr. G. Fleming, Austin, Ill. Mr. S. C. Age 57 years; occupation, weigher. Admitted to Mercy Hospital Jan. 11, 1903.

Family history: negative. Personal history: No serious illnesses; never used alcohol to excess. Present illness: Began about five years ago with increased frequency of urination and at times slight pain during the act. The frequency was present both day and night. For a few years he was troubled only during the winter months and was practically free from the symptoms during the summer time. Last summer these two symptoms

painful and frequent urination, were present in slight degree and persisted until about one month ago, when they suddenly became very much aggravated. During the last week severe pain and straining during the passage of urine have given him but little rest. He urinates every 20 to twenty-five minutes, passing but a small quantity of urine each time, and usually only after several ineffectual efforts to start the stream.

Examination of patient: Large stature; well nourished; heart and lungs negative. Rectal examination shows the prostate to be very much enlarged bilaterally and of firm consistency. Metal sound could not be passed into the bladder because of the very severe pain which he suffered when the tip of the sound reached the prostate. Because of the severe pain and straining during the passage of the urine and the presence of blood in the specimens passed, it was thought that a stone might be present. An x-ray photograph of the pelvis was taken, but no stone found. Urinary examination: Acid, 1013, clear, albumen present. Few blood cells and many pus cells found in the centrifuge specimen.

Operation Jan. 12, 1903. Perineal prostatectomy performed. The operation was more difficult in this case than usual, because of the very deep situation of the prostate and the difficulty of getting the fingers above the upper border during the enucleation. The lateral lobes were greatly elongated, being two and a half inches long and two inches wide. The central lobe was about the size of a small almond. In this case the permanent catheter was not used. The cavity left by the removal of the prostate was packed with bismuth subiodide gauze and the bladder drained through the perineum by means of a large rubber tube. condition after the operation excellent; temperature normal, pulse 94. In the afternoon complained of severe pain in the wound. Temperature 100.6°, pulse 94. Jan. 13th temperature 100°, pulse 84 in the evening. After this and until his discharge from the hospital temperature remained normal except on one occasion, Feb. 4th, when without apparent cause it rose to 101.6° for a few hours. Feb. 14th he was given urotropin grs. v. t.i.d., which was continued until his discharge. Perineal packing removed Jan. 14th, and drainage tube on 19th. Patient sat up in chair first time Jan. 26th. On Feb. 6th patient had control of bladder to the extent that he could hold urine for about one hour. On Feb. 8th a catheter was passed through urethra to prostatic portion, but it could not be passed into the bladder. That night he passed urine through the urethra twice. Feb. 15th perineal wound had almost entirely closed but there was occasionally a very small amount of urine escaped this way during micturation. Patient discharged from hospital Feb. 16, 1903.

In a report received from this patient April 1, 1903, he states that the perineal sinus closed entirely March 16th and has not since leaked. The scar in the perineum is slightly tender to pressure, but he has no pain in bladder or urethra. During the day he holds his urine two to two and a half hours and gets up only three times at night; goes to bed at 10 P. M. and arises at 7 A. M. The stream of urine is full and he experiences no difficulty or delay in starting it. His general health is excellent; weight up to normal; sleeps well and feels strong. Sexual desire has disappeared and he has no erections.

Case 26.—Mr. E. O. Age 54 years. Occupation, stock-raiser. Admitted to Mercy Hospital, Jan. 19, 1903.

Family history: Negative. Personal history: Negative.

Present illness: Onset three or four years ago, when patient was troubled with frequent desire to urinate. Passage of urine being accompanied by burning in the urethra. These symptoms have continued until the present time. After a good deal of distress in the bladder, he is able to pass a small quantity of urine, but cannot completely empty the bladder. Three or four times during the last year and a half he has been unable to pass any urine and has had to be catheterized daily for a week or two. The straining has been so constant that he has developed a prolapse of the rectum and hemorrhoids, which in themselves cause him considerable pain and distress. Symptoms were always worse in the cold weather.

Examination: Prostate enlarged to moderate degree and of hard consistency.

Urinalysis: Yellow, turbid, trace of albumen, no sugar, numerous pus cells, no casts.

Operation, Jan. 21, 1903. Perineal prostatectomy performed. Lateral lobes of prostate the size of a large walnut each. Median lobe about the size of an almond and projected into the lumen of the urethra. The prostatic urethra was dilated, and after the removal of the lateral lobes the two flaps of urethral mucous membrane were brought together in the median line and sutured with cat gut. Bladder drained through large perineal tube and wound packed with bismuth gauze. On the afternoon of the 21st, temperature was 99° and pulse 108. From Jan. 21st to Jan. 30th, P. M. temperature ranged from 99° to 100.4°, with pulse 80 to 90. Bowels were removed with drachms ii doses of aromatic cascara, daily. Perineal packing removed Jan. 23d and the tube a week later. Jan. 25th, patient was ordered urotropin grs. v. t.i.d. From Jan. 30th to Feb. 1st, P. M. temperature ranged from 100.4° to 102.2°, without apparent cause. Feb. 2d to Feb. 10th, P. M. temperature was irregular, some days remaining normal and others registering 99.4° to 102.6°. After the 10th, temperature remained normal until date of discharge. Patient sat up in bed for first time Feb. 5th and was discharged from hospital Feb. 22d. Perineal wound closed completely Feb. 13th, and after that there was no leakage from it. At the time of his discharge from the hospital the control of bladder was good and he held urine three to four hours.

In a report received from this patient, April 1, 1903, he states that the wound has remained healed, and that he has complete control of the urine. Holds urine one and a half to three hours during the day and from three to four hours during the night. He has not had to use catheter since operation. He has some slight pain in the wound and along the urethra after being on his feet a good deal. Urine is clear. Sexual function abolished. Patient says that he has desire but "cannot accomplish the act." General health good, appetite good, sleeps well and is gaining in weight. Has some slight soreness in the testicles.

CASE 27.—Mr. F. Age 65 years.

The following history of this case is from memory, as the hospital record was purloined:

Admitted to Mercy Hospital Feb. 13th, 1903. He suffered from evidences of prostatic hypertrophy during the past four years, the symptoms increasing in severity and for the last year being very annoying. Examination showed a very much hypertrophied prostate, the left lobe being larger than the right.

Operation, Feb. 18, 1903: Usual prostatectomy was performed and no difficulties encountered.

The course following the operation was remarkably smooth for 4 weeks. The perineal packing was removed on the second day after the operation, and the tube came out on the third day. Urine escaped from the sinus left by the tube, when he urinated. He was allowed out of bed about ten or twelve days after the operation, and the urine had commenced to come through the urethra at that time, but only in very small quantities. Perineal sinus persisted, but his control of the bladder was excellent and he was able to hold the urine for several hours. He had no temperature at any time after the first few days following the operation, until the 15th of March, when he developed a slight cough, with scattered moist rales over both lungs. He complained of no symptoms referable to the bladder or perineum at this time, and did not feel sick. His temperature on the 15th was about 101° F. After this the cough persisted, but at no time was any consolidation of the lung detected. Afternoon temperature ranged from 101° to 102.5° F., with pulse 90 to 100. He had the classic symptoms of La Grippe, similar to many other cases in the hospital at that time. On March 20th, a to-and-fro rub was heard over the pericardium, and patient complained of some slight pain in this region. This rub was heard best during respiration (a pleuro-pericardial friction.) About 24 hours after the rub was first heard, patient suddenly became paralyzed on the left side. At first the hemiplegia was complete but twelve hours after

onset he was able to move his leg. Consciousness was not lost at the beginning, but he could not talk. Temperature that night registered about 103° F., and pulse about 110. Patient gradually lapsed into unconsciousness, pulse became more rapid and temperature remained high. He died March 22d, in the evening.

In this case there seems to have been no connection between the operation and the illness which caused his death. His convalescence after the operation had been perfect, the wound had healed rapidly, the urine was normal and he had had no fever at any time before the onset of the fatal illness. The lesion was undoubtedly cerebral embolism, secondary to an endocarditis, but the cause of the endocarditis is obscure.

Case 28.—Mr. E. F. H. Age 47 years. Occupation, plumber; married. Admitted to Mercy Hospital, Feb. 18, 1903.

Family history: Mother died of carcinoma.

Personal history: Typhoid fever and pneumonia at 17 years. Has been subject to frequent attacks of diorrhoea. Formerly used alcoholics to excess.

Present illness: Dates from about fifteen years ago, when he was working in a lead smelter. At that time he developed lead colic, followed by diarrhoea; was sick about two months, and after getting out of bed complained of weakness in his extremities. After this, passed large quantities of mucous from the bowels. Under treatment the colitis improved, but he has had attacks of it since then, after working hard. During the past year patient has suffered from irritability of the bladder, being obliged to urinate frequently during the day and from one to three times during the night. The principal symptom from which he suffers, however, is a constant burning sensation at the base of the bladder. He is never free from this burning, and it is sometimes aggravated by urination. He also complains of frequent nocturnal emissions, accompanied by great burning pain in the perineum. Sexual power has markedly decreased of late. Has lost about ten or fifteen pounds in weight since onset.

Examination of patient: Medium stature; fair nourishment; heart and lungs negative; abdomen negative. Rectal examination; the prostascope shows the mucous membrane to be normal; palpation reveals presence of slightly enlarged prostate, the left lobe being larger than the right. No stricture found in the urethra and no stone in the bladder.

Examination of urine: Acid, 1030, no albumen, no sugar, very few pus cells.

Operation, March 4, 1903: Perineal prostatectomy performed by my associate J. M. Neff. Left lobe larger than right; both removed, with the posterior prostatic urethra, and a few cat gut sutures used to bring the lateral edges of the prostatic urethra together to form a new floor. Perineal drainage of the bladder; wound packed with subiodide bismuth gauze. Temperature afternoon of operation 99°, pulse 88. From March 5th to 14th, afternoon temperature ranged from 99° to 101°. During this time he complained of a considerable pain in the perineal wound during the first few days. Perineal packing partly removed March 7th, but hemorrhage was so profuse that it was necessary to re-pack. Perineal packing removed March 8th, without recurrence of hemorrhage. On March 15th, patient suddenly developed temperature of 104°, pulse 110. He complained of considerable cough and moist rales were present over both lungs. Cotton jacket put on, and ammonium carbonate and chloride, in five grain doses, administered. Temperature remained up until the afternoon of March 17th, when it came down to normal and remained so during the rest of his stay in the hospital. Ten days after operation, patient began to get control, as was shown by the urine escaping in gushes and not continuously. After this the perineal wound granulated quite rapidly; the urine began coming through the urethra, at first in drops and later in larger quantities, so that when he left the hospital, all of it was coming in this way. Perineal wound closed completely twenty-two days after the operation. On April 2d he was able to hold the urine three to five hours during the day, and on an average of about three hours during the night. Has not had any of the burning pain at the base of the

bladder since the operation. For a couple of weeks after operation, patient did not have complete control of the rectum, when bowels were loose. This partial loss of sphincteric control, however, rapidly disappeared, and when he left the hospital, April 4th, control was normal.

Discussion.

G. Frank Lydston, of Chicago: Mr. President.—I believe that the year 1892 must necessarily go down into medical history as marking a wonderful epoch—the discovery of the prostate by the general surgeon of Chicago. Dr. Murphy has referred to me, and has stolen a great deal of my thunder.

The nomenclature of a middle lobe of the prostate is fallacious, and I protest against the term middle lobe being used. The absurdity of classifying it as a middle lobe is shown by Dr. Murphy's remarks when he referred to a case in which a pedunculated tumor was found and readily removed without the lateral lobe coming away. To speak of removing a pedunculated fibro-adenoma at the neck of the bladder and freeing the bladder at the posterior median lobe of the prostate is ridiculous. Cases in which there is no distinct tumor, but a median thickening, should not be classified as the posterior median lobe. I classify conditions or tumors of one kind or another, located in the posterior median portion of the prostate, as merely posterior median hypertrophy. I do not wish to assume a dogmatic position, but, according to the investigations of Reginald Harrison, infants have no prostates, but as they advance in life they develop prostates which can be determined.

So far as the muscular tissue of the prostate in children is concerned, it bears the same relation to the muscular tissue of the bladder wall that the muscular tissue of the cervix uteri does to the body of the uterus, and the mucous membrane of the prostatic urethra presents an appearance as though the mucous membrane of the bladder was simply drawn down through.

The term prostatectomy is a misnomer as applied to a large number of these operations. The operation does not consist, in the majority of cases, in the extirpation or resection of the prostate, but simply the removal of pathologic tissue, which is circumscribed in many instances, forming fibrous or distinctly pedunculated tumors of one kind of another. In a large proportion of instances most men, who have worked in this field, will agree with me that the term prostatectomy is a misnomer, and possibly the nomenclature of prostatectomy may be held responsible for the avoidance of the operation by general practitioners, to whom the removal of the prostate seems a formidable operative procedure, if not an impossibility.

With regard to acute retention, the essayist very clearly set forth the fact that it is the relative degree of deformity of the prostatic urethra rather than the size of the prostatic overgrowth, *per se*, that determines the symptoms. In cases of acute retention the mistake is made that there has been an increase of the prostatic overgrowth, an increase in bulk, shutting off the urinary passage completely. As a matter of fact, however, acute retention may be due to spasm, to acute hyperemia, superadded to organic obstruction.

Dr. Murphy made clear the necessity of early operation. I believe the statistics of radical operations upon the prostate up to date are almost worthless, in that they do not show what radical operations *per se* might accomplish under favorable conditions, but what may be accomplished under desperate conditions. The mistake, I believe, originated in the belief of the profession that prostatic hypertrophy is a senile change, and is an essential factor in the life of the young and old man. Every old man may be said to have symptoms, more or less marked, of prostatic hypertrophy. In all cases of prostatic hypertrophy of whatever variety of new growth, the conditions are laid down at a much earlier period than is ordinarily supposed, and the time at which severe symptoms manifest themselves is not at the period of beginning of the disease. And that is a mistake we all make. If we were to apply the same pretext to ovariotomy that we apply to prostatectomy, we would have poor results.

OBITUARY.

Hugh Marshall, M. D.

Dr. Hugh Marshall, one of the oldest practitioners in Monmouth and Warren county, died at his home on April 10, 1903.

For long years Dr. Marshall has been active in the practice of medicine in this county. In 1872 he came to Monmouth. During these years of practice he became a familiar figure all over the entire county, and succeeded in building up a large clientage, being recognized as one of the leading physicians of this entire section.

During the last few years failing health compelled him to lay down some of the active duties of his life, and he had for a number of years previous to his death been gradually relinquishing his practice. Through his long years of usefulness he had been prominent in the medical circles of this county. For some years he was coroner and was always an active member of the Warren County Medical society. He at one time was president of the Military Tract Medical society and was a member of the Illinois State Medical society.

Dr. Marshall was born in South Carolina, December 15, 1825. In 1839 together with his parents, Mr. and Mrs. Alexander Marshall, he came to Henderson county where his parents died. Beginning his education in South Carolina his common school work was finished in Henderson county. After reading medicine for some time in a private office he entered Rush Medical college at Chicago, where he graduated with the class of 1852. In 1872 Dr. Marshall was married to Matilda C. Brewer of Monmouth, who with their son Hugh survives him.

The Illinois Medical Journal.

The Official Organ of the State Medical Society.

EDITOR—George N. Kreider, A. M., M. D., Springfield.

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All communications should be addressed to the Editor, 522 Capitol Ave., Springfield, Illinois.
The JOURNAL is published monthly. The subscription price is $3.00 per annum in advance.

MAY, 1903.

THE CHICAGO MEETING.

Ten years ago the Society met in Chicago, the president then, E. Fletcher Ingals, being as now M. L. Harris, a resident of that city. The World's Fair was then in full swing. The active work of the president had worked up the membership to the highest point in the history of the Society. The program was excelient and the Society for the first time worked in two sections. Strangely enough the profession was at that time expressing its desire for a Board of Medical Examiners. The Chicago Medical Society at that time had about 600 members and the total number of societies represented on the nominating committee was 22, four of them being of Chicago. Wm. O. Ensign of Rutland read his first report on Medical Societies which marked an era in the organization of the profession. The total actual

members of local societies in the State then was possibly 1,800.

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Next week President Harris will preside over the house of delegates, composed of about 95 members representing 105 local societies with a membership approaching 4,400 members. The Chicago Medical Society with 16 affiliated and branch organizations will have 1,425 members represented by 19 delegates. The Society will hear its scientific papers in three sections, which will be attended by not less than 1,200 persons. It will at that time know the fate of the bill establishing a Board of Medical Examiners and will be in position to praise those securing its passage and show its contempt for the obstructionists. The Committee on Medical Societies will be able to report an almost perfect organization of the State by counties. Altogether the largest State Society in the union convening as the guests of the largest city society in the world bids fair to have the most interesting meeting in its history.

THE LEGISLATIVE COMMITTEE.

A residence and practice of twenty-three years in the seat of government of this State, during which we have kept in close touch with the efforts of the profession to secure legislation, enables us to speak with some degree of authority concerning the work of the Legislative Committee before and during the present session of the General Assembly.

* * * * * * *

In the first place the profession has by reason of the Journal and other efforts been organized to the highest degree of proficiency for united and harmonious action. Chairman Black has been the organizer and he has searched the State from Antioch to Cairo and from Danville to Quincy to secure workers for the cause. He tabulated the laws of every State, territory, province and district of the western hemisphere to assist in the compilation of a perfect law and barring the changes which it seemed impossible to avoid making the law will be found a model document of its kind. The history of the state of affairs which seemed to make these changes or concessions necessary would make a long and interesting story which we cannot now detail.

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Before the law reached the legislature, the committee met a state of affairs which would have discouraged a committee of less stability and after the bills were introduced we are sure that many another triumvirate would have given up the contest, placed the responsibility where it belonged and retired gracefully from the field. Indeed the committee were advised to do this by more than one strong leader in the Society. But our leaders never grew tired and never lacked a resource when success seemed all but impossible. Hours, days and nights have been given by them to the interests of the profession.

At this writing the fate of our bill hangs in the balance. It passed the Senate unanimously last week and was promptly reported over to the House and later referred to the Committee on Judiciary of which Mr. Shurtleff is chairman. It is understood that the chairman is not friendly to the bill, but he has promised to report it out of his committee and give the members of the House a chance to go on record for or against the measure. This is all that could be asked and we feel sure that the wishes of our fraternity will be respected by their representatives and that the bill will finally carry by quite as complimentary a vote as was accorded it in the Senate.

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Whether the battle is won or lost the Illi-

nois State Medical Society should be proud to have such characters in its membership as Drs. Black, Ingals and Taylor. If they individually and collectively are not accorded a rising vote of thanks, a huge laurel wreath of appreciation and a triumphant entry into the citadel of our affections at the meeting in Chicago next week then indeed may the Society be called ungrateful and honest effort be said to go unrewarded.

THE JOURNAL: INDEX FOR VOLUME FOUR

The present number of the Journal will be found much larger than any previous issue for reasons over which we have had no control. Two of the papers which were read at the Quincy meeting were not sent in until after the April Journal had appeared and there had been no intimation that they would be presented. In the meantime two papers, Black's and Yolton's had been accepted for the May issue and put in type. The Journal therefore will have more the appearance of a magazine than a medical journal, but owing to the valuable articles it contains we hope our readers will unite in saying that it is one of the best issues of the year.

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Owing to unusual size and necessity for haste in issuing the last number of the present volume we are obliged to defer sending out the index until next month. This, when issued, will be found more complete than any index which has been thus far furnished for this Journal.

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O. J. Roskoten of Peoria announces that he has a few duplicate volumes of Transactions which he would be pleased to exchange with members having volumes which he lacks.

FATTY OVERGROWTH OF SYNOVIAL VILLI.

The occurrence of pain, swelling and impaired function in a joint, as a chronic affection, especially in the large joints and without accompanying symptoms of some general disease, would indicate as a rule some infectious process of a chronic character; naturally tuberculosis would be thought of in many instances. Painter and Erving (1.) have called attention to a condition which although known for many years is not ordinarily considered in the differential diagnosis of tuberculous arthritis.

The hyperplasia and hypertrophy of the adipose and connective tissue in the villous formations of the larger synovial sacs has been designated as lipoma arborescens. The use of this term will no doubt be continued notwithstanding its questionable propriety, for the process whereby the growths are formed in this condition has very little in common with that operating in the development of true tumors.

Steida writing in 1896 could only find 13 cases and this included two of his own, yet these writers give the details of 7 cases observed at the Carney Hospital in Boston during a period of three years. Many diseases although uncommon at present, have passed through cycles of extreme infrequency of observation; for years succeeding their first recognition only occasional references to them may be found in the literature. It is not impossible that a similar course of events awaits this little known joint affection.

Many of the cases might be mistaken for instances of free bodies in the joint, on account of the slipping sensations and sharp pain and occasional succeeding effusion.

Single synovial villi sometimes become free in the joint and such occurrences may

1. The Boston Medical and Surgical Journal 1903 CXLVIII, 305

or may not supervene in connection with the more general hypertrophy of the adispose tissue.

Important distinguishing features of lipoma arborescens are absence of clinical evidences of acute inflammation, the presence in some cases of a mass which in the knee joint may be found by palpation and the usual absence of much fluid in the joint. The growth removed from the knee in one of the cases reported by Painter and Erving was the size of an adult palm. The patient, a young woman, had suffered for six months and at the time of the operation complete extension of the leg was impossible; there was some atrophy of the leg; X-Ray examination was employed but no diagnosis was made before operating.

In three other cases the growths were the size of an English walnut or larger. Microscopic examination of the masses removed revealed the normal elements of the villi and in addition inflammatory changes endarteritic blood vessels and large amounts of adipose tissue. A number of observers have ascribed a tuberculous etiology to such fatty growths; Painter and Erving, however, found but little to support such a view. Removal of the overgrown villi is followed by recovery; the authors encourage exploration of the joint as a diagnostic measure.

MORTALITY STATISTICS OF ILLINOIS CITIES FOR MARCH, 1903.

	Population.	Death Rate.	Diphtheria.	Scarlet Fever.	Measles.	Smallpox.	Typhoid Fever.
Chicago.....	1,885,000	16.94	49	30	32	8	49
Springfield..	40,000	14.12	0	0	1	1	1
Jacksonville.	16,000	21.06	0	0	0	0	1
Pontiac.....	4,266	8.04	0	0	0	0	0
Freeport.....	18,258	8.05	2	0	0	0	0

Peoria: Commissioner of Health McFadden has kindly forwarded a copy of his annual report for the year 1902. Basing his calculations on a population of 70,000, which is probably a little high since the census of 1900 showed only 56,100 and the census of 1890, 41,024. Dr. McFadden calculates the death rate at 10.6. The population is probably nearer 65,000, which even then gives a death rate of 11.4 of which the city may well be proud. The commissioner gives much of the credit for this to the excellent water supply. There were during the year but two deaths from diphtheria, two from scarlet fever and eighteen from typhoid fever.

Jacksonville: We are unable to account for the high death rate prevailing in this city, one of the most beautiful and intelligent communities in the State.

State Items.

The Medical Woman's Club was recently organized in Chicago with sixty members. Sarah Hackett Stephenson of Chicago, was elected President and Henrietta Johnstone of Evanston, Secretary. Practitioners of all schools are eligible for membership.

A writer in the Chicago Daily News recently charged the State Board of Pharmacy with great laxity in enforcing the provisions of the laws. The writer seems to think that if the Board were more active the sale of opium, morphine, codeine, chloral, cocaine, carbolic acid and other deadly drugs would be more restricted. The writer holds that these drugs should not be sold to any one having the price but only on a physicians prescription.

The first annual bulletin giving statistics regarding births during 1902, under the new law was recently issued. Complete returns from all counties except Cook and estimated returns from that county gives the total number as 85,000 for the entire State.

There were reported 572 twin births, 15 triplets and 1,767 still births. The record of illegitimate births is imperfect.

The following is the per centage of births to population in the largest counties in the state, outside of Cook, basing the population on the census of 1900:

County.	Population.	Births.	Per Ct.
Peoria	88,608	1,388	15.50
LaSalle	87,776	1,738	19.80
St. Clair	86,685	1,064	12.10
Kane	78,972	1,297	16.40
Will	74,764	1,481	18.40
Sangamon	71,593	1,358	18.90
Madison	67,843	1,105	16.29
Adams	67,058	845	20.90
Vermilion	65,635	1,408	21.20
McLean	64,694	1,267	19.30

Official Items.

COMMITTEE COMITATAS.

The Legislative Committee hereby gives notice to each member of each local medical society in the State that there will be a meeting of the Committee Comitatas at the Sherman House, Chicago, at 10 o'clock A. M., on Tuesday, April 28th. This notice is in conformity of Section 8, of Chapter 7 of our by-laws which reads as follows:

"The Committee Comitatas shall consist of the Committee on Legislation, with all other members of the Society who wish to meet with it. The Chairman of the Committee on Legislation shall be Chairman of this committee. This committee shall meet at 10 A. M. on the day preceding the annual session of the Society and shall consider all questions of interest to the Society that may be brought before it, and its report shall be made to the House of Delegates on the first day of the annual session."

We hope there will be a large attendance at this session. Such sessions have been held annually during the last four years, and have proved to be of great benefit to the Society and have freed the general sessions of much discussion which formerly occupied the time which should have been devoted to the sections. The topic of most pressing interest and importance is the relation of the County and District Societies to the State Society and the best means of completing and strengthening our organization. This involves the question of annual dues. Every county in the State should have several representatives present at this meeting prepared to discuss these and other important topics.

CARL E. BLACK, Chairman,
E. FLETCHER INGALS,
L. C. TAYLOR,
M. L. HARRIS, Ex-Officio.
Legislative Committee.

Local Societies.

The Chicago Laryngological and Climatological Association held a regular meeting Feb. 23, 1903, with President N. H. Pierce in the chair.

Geo. E. Shambaugh read a paper entitled **Otosclerosis or Spongifying of the Capsule of the Labyrinth.**

Before the tuning-fork tests were introduced as an aid in diagnosing labyrinthine from middle ear deafness, cases presenting the clinical picture of gradually increasing deafness which ran their course without any catarrh of the middle ear and in which the physical examination revealed none of the well-known marks of catarrhal inflammation of the middle ear, were diagnosed as primary disease of the labyrinth, "nerve deafness."

With the aid afforded by the tuning-fork tests, these cases were divided into two distinct groups. The first group included those cases where a shortened bone conduction and a positive Rinne showed defect in the sound-perceiving apparatus, cases of labyrinthine deafness. The second group included the cases where a prolonged bone conduction together with a negative Rinne and a marked degree of deafness for tones at the lower end of the scale showed an obstruction in the sound-conducting apparatus, cases of middle ear deafness.

These latter cases, although the Eustachain tube was normal and the membrana tympani showed none of the marks of middle ear catarrh, were classified as the sclerotic type of the dry chronic middle ear catarrh in distinction from the hypertrophic type where a more or less contracted tube together with a retracted and thickened membrana tympani gave positive evidence of inflammatory changes in the middle ear.

These cases of so-called sclerosis of the middle ear, it has long been known, do not improve under treatment, but in spite of all treatment, as a rule grow worse and worse, often terminating in total deafness.

Post-mortem examinations of cases diagnosed as sclerosis made by Politzer, Bezold, Siebenmann and others, have revealed the fact that the pathology of this condition consists of the development in the bony capsule of the labyrinth of nodules of spongy bone replacing the previously existing ivory-like bone of the capsule.

The clinical picture usually presented by these cases of obstruction in the sound-conducting apparatus, namely, prolongation of bone conduction with markedly negative Rinne and a marked degree of deafness by air conduction for the lower tones, is explained by the fact that the newly formed bone nodules usually developed about the fenestra vestibuli, producing quite early in the disease a bony anchylosis of the stapes and the typical symptoms of obstruction in the conducting apparatus. As the disease progressed, however, and the structures of the cochlea became more and more involved, symptoms of beginning labyrinthine deafness were often found superimposed on those of the middle ear type.

A physical sign often seen early in these cases, a sign first noted by Schwartze, is a reddish lustre transmitted to the membrana tympani from a congestion of the blood vessels on the inner wall of the cavum tympani. This sign is of positive value only when it

is present, when it signifies that the condition is progressing. Its absence is of no value in diagnosis, since the congestion disappears entirely in the later stages of the diseases.

Siebenmann was the first to report a case with post-mortem findings of multiple areas of spongifying bone in the labyrinthine capsule and where the functional tests showed deafness of the labyrinthine type instead of the obstruction in the conducting apparatus as usually found.

The diagnosis of this condition in a typical case can be made with certainty. If in a case with gradually increasing deafness, the membrana tympani is found normal or with the reddish lustre transmitted from the walls of the promontory and the Eustachian tube is open, while the tuning-fork tests show loss of perception for the low tones, a decidedly negative Rinne and prolongation of bone conduction the diagnosis of sclerosis is positive. When, however, this condition developes in a case previously the seat of some middle ear disease, either catarrhal or suppurative, or when the condition takes an atypical course, as in the case referred to above, producing labyrinthine deafness, the diagnosis in most instances must remain in doubt.

Various terms from time to time have been applied to this condition based on the existing conception of its pathology. The term sclerosis of the middle ear was the term first used to distinguish this condition from the hypertrophic form of chronic catarrhal otitis media. The term was based on a misconception of the pathology of the condition, since later investigation has demonstrated the absence in this disease of a sclerotic process in the middle ear. Anchylosis of the stapes is another term that has been used and while it expresses clearly the pathological condition that produces the prominent clinical symptoms of an obstruction in the conducting apparatus often present in these cases, it is not an entirely satisfactory term. In the first place, other pathological processes besides spongifying of the labyrinthine capsule may produce fixation of the stapes in the fenestra vestibuli and in the second place, this condition of spongifying of the labyrinthine capsule may develope, as Siebenmann has found in various parts of the capsule and produce as the prominent symptoms those of labyrinthine deafness instead of the symptoms of primary fixation of the stapes. Politzer has used the term capsulitis labyrinthi and Siebenmann that of spongifying of the labyrinthine capsule. In a recent number of the Annals of Otology, Rhinology and Laryngology is an article on this subject referring to the process as otitis media insidiosa. The process is not an otitis media at all, but a disease of the bony capsule of the labyrinth which through its early fixation of the stapes often produces the clinical picture of obstruction in the sound conducting apparatus.

I have here to present a case showing the typical picture of labyrinthine deafness but where the probable diagnosis of disease of the capsule of the labyrinth without fixation of the footplate of the stapes has been made as the condition that will best explain all of the symptoms presented.

The history of the case is as follows: Mr. T., age 27, a University student in good general health. He has had no serious illness and has never had syphilis. He knows of no deafness in any member of his family, nor has he had any ear trouble previous to the present one.

About three and one-half years ago, tinnitus began to develope insidiously in the right ear. At first it was noticed only on waking in the morning, when everything was quiet. In the course of several months the tinnitus was noticed also during the day. It was associated after a short time with slight deafness and a sensation of fullness in the ear as though the ear was stopped up. About six months after the involvement of the right ear, the same symptoms began to appear in the left ear. The tinnitus is continuous in both ears, and in the right ear is pulsating in character. He likens the tinnitus to the roar produced by the wind in a forest. The deafness has been gradually increasing, and he says it has progressed much more rapidly during the past six months. These are the only symptoms present. There has been no dizziness or vertigo.

A physical examination found the nose and nasopharynx normal, the Eustachian tube normal and patulent. The membrana tympani had a perfectly normal appearance, showing not a trace of retraction or thickening. Cone of light normal. Spread over the entire membrana tympani was a diffuse reddish lustre, transmitted from the wall of the promontory.

Functional examination gave the following results: Whispered voice could be heard in the right ear only when spoken with force and close to the meatus. In the left ear it could be heard at a distance of six inches from the meatus. In the Weber test the fork was lateralized distinctly in the left or better hearing ear. The Schwabach test showed a marked shortening of the bone conduction. The Rinne test was positive for both ears. The C-fork (64 d. v.) was heard in both ears almost as long as in a normal ear, while the C-fork was shortened about 45 seconds. The functional tests gave the usual results of a typical case of labyrinthine deafness.

The age of the patient, the normal condition of his general health and the absence of any constitutional disease that might produce disease of the labyrinth, the absence, moreover, of any known cause for primary disease of the labyrinth, such as syphilis, occupation, injury, etc., the absence, too, of the characteristic symptoms of Meniere's disease, these together with the insidious development of the symptoms of tinnitus and deafness of the labyrinthine type, led me to suspect the possibility of a primary disease of the bony capsule of the labyrinth in which the spongifying process, however, did not cause primarily fixation of the stapes but had developed in the lower end of the basal coil of the cochlea producing the typical symptoms of labyrinthine deafness. This diagnosis was made all the more probable from the result of the physical examination, which, in the absence of any sign of catarrh of the middle ear, revealed on the

membrana tympani the typical reddish lustre transmitted from the wall of the promontory characteristic of otosclerosis.

To pronounce this case positively one of spongifying of the labyrinthine capsule may hardly seem justifiable considering the very limited knowledge we have regarding the possible clinical course and the possible symptoms that may be produced by this process, especially when it develops in parts of the capsule not in region of the fenestra vestibuli, as in the case of Siebenmann referred to above. From this case it has been shown that the spongifying process may develop in various parts of the labyrinthine capsule and instead of producing the usual symptoms of anchylosis of the stapes, it can produce the symptoms of labyrinthine deafness.

In the case reported here, the clinical history, together with the physical findings, for reasons stated above, would seem to justify the diagnosis of otosclerosis or spongifying of the labyrinthine capsule involving the basal coil of the cochlea and without producing anchylosis of the stapes.

J. Holinger: I wish to make a few remarks on the explanations made by Dr. Shambaugh in connection with the case reported by him. The red transparency of the drum-head is given as a pathognomonic sign of spongifying of the labyrinth, still I have under observation a woman in whom this symptom is very pronounced, yet her only affection is tinnitus thus far. All the tuning-fork examinations show normal conditions.

I have doubts whether we can make a diagnosis of sclerosis or spongifying of the labyrinth in all cases where we have this red transparency of the membrane from injection of the promontory. My doubts are based on this case which I have observed for more than a year.

Furthermore, it is stated that the disease begins between eighteen and twenty-two years of age. My patient is now twenty-four years of age, and the pathological changes ought to be more pronounced at that age.

As to the differentiation between the limits of the labyrinth, there has been some change in our views recently, mainly based upon the nutrition of the parts. In the Archiv fur Ohrenheilkunde you will find an article in which it is stated that all the blood vessels running through the capsule of the labyrinth end sharply at the inner limit of this capsule they do not enter the membranous labyrinth. So if we make a differentiation between labyrinthine and middle ear disease, not at the mucous membrane of the middle ear, but at the limit between the membranous labyrinth and the bony capsule, we will probably approach more closely the real facts. We have to consider the condition of the nutrition more important than the macroscopic view.

Furthermore, the deafness in sclerosis is not progressive under all circumstances. It is stationary in many cases, and all authors state that, as a rule, if we leave the patients alone they have enough hearing left for conversation. The deafness does not increase until the advent of old age.

As to capsulitis labyrinthi, there is a good deal of controversy going on as to the inflammatory nature of the spongifying process of the labyrinth. So far, no actual proof has been brought forward that the process is an inflammatory one, but just the opposite. Proof has been advanced that the oldest foci of spongifying are in the depths of the bone, and there we cannot expect any inflammatory process to establish itself, if it should depend upon infection of any sort.

W. L. Ballenger: I simply rise for information. I have been searching for a case of "Spongifying of the Labyrinth" for more than two years, and so far I have not been able to satisfy myself that I have seen such a case, nor have I had one demonstrated to my satisfaction by others. Dr. Shambaugh reports a case in which there is positive Rinne, loss of hearing for high tones, and reduction in hearing by bone conduction, etc. I want to ask Dr. Shambaugh how he differentiates these cases from other diseases of the labyrinth. Why may this not be some other affection of the labyrinth, say chronic hyperasemia, as well as a rarifying osteitis, or a spongifying of the bone of the bony capsule? I would like to have him clear up this point for me if he will. Understand me, I do not doubt there is such a disease as Spongifying of the Labyrinth, as the microscope has shown it, and I am not saying that the disease cannot be diagnosed in the living subject, but I simply state that so far I have been unable to recognize such a case. They have all presented some of the objective signs of middle ear disease, or of fixation of the stapes. As we all know fixation of the stapes may be due to other causes than spongifying of the bony capsule of the labyrinth, hence this condition alone does not necessarily point to spongifying.

Dr. Shambaugh (closing the discussion): In reply to the point made by Dr. Holinger, in regard to the blood supply of the capsule of the labyrinth, I will say that I cannot see how this alters in any way our conception of the pathology of spongifying of the labyrinthine capsule, or our conception of how the symptoms are produced. Many years ago Adam Politzer stated that he had discovered connections between the blood vessels of the labyrinth and those in the mucous membrane over the promontory in the cavum tympani. This anastomosis of the blood vessels has never been verified by other observers. The recent work on this subject, to which the Doctor referred, is an article in a late number of the Archiv f. Ohrenheilkunde, in which the position taken by Politzer is refuted, and the point is made that the blood supply to that part of the labyrinthine capsule, which enters into the formation of the promontory, comes entirely from the blood vessels of the cavum tympani. This view tends to explain why, in the spongifying of the bony capsule of the labyrinth, we so often find a marked congestion of the blood vessels over the wall of the promontory.

The remark that cases of oto-sclerosis take an irregular course applies, it is true, to a few cases where we can note intervals during which the process is evidently progressing, and

others where it is apparently at a standstill. The character of the process of spongifying that is typical, however, is the insidious development with constantly increasing symptoms of tinnitus and deafness. The tinnitus often precedes the onset of deafness by several years.

The answer to the question asked by Dr. Ballenger as to how this case can be diagnosed from labyrinthine deafness due to other causes has been given in what I have already said. The history of the case excludes many of the usual causes of labyrinthine deafness. The insidious development of the disease excludes other types of labyrinthine deafness that are likely to appear at the age of this patient, such as injury, Meniere's disease, etc. The case lacks, too, the typical symptoms that are found in many cases of labyrinthine disease. All of these facts, when taken in connection with the marked congestion of the blood vessels over the wall of the promontory, a symptom that does not occur in labyrinthine disease due to other causes, makes the diagnosis of spongifying of the capsule in distinction from other types of labyrinthine disease reasonably certain.

C. Beck read a paper entitled **The Use of Paraffin in Speech Defects with Presentation of a Patient.**

The scientific study of defects of speech was first pursued by Kussmaul in 1878. Up to this time the treatment of this condition lay in the hands of charlatans et cetera. The study was quickly taken up in every part of Europe and America and by this time we can mention a score of very prominent specialists in this science. Among the most renowned are Biaggi of Mailand; Chervin and Olivier of Paris; D'Ercole of Turbin; Greenbaum of Dresden; Gutzmann and Liebmann of Berlin; Halle of Munich; Miele of Grant; Loewy of Charlottenburg; Oltuszewski of Warsaw; Shrank, Weil and Coen of Vienna; Jank of Prague; Makuen of Philadelphia and Winkler of Bremen. Not only these, but many a laryngologist and general practitioner has of late busied himself with the study of this subject, so that today we may read splendid investigations and a good report in literature.

Numerous classifications have been devised by the authors: One by Makuen[1], who divides the varieties into two great classes,

(a) Those originating centrally, and

(b) Those originating peripherally.

We have, however, frequently both these conditions mixed.

The most complete and practical division has been made by Coen[2] as follows:

1, Stutterers

2, Stammerers.

3, Rhinolalia.

(a) Due to obstructive conditions to the air and sound.

(b) Due to conditions allowing the escape of the air and sound.

4, Intellectual deafness. (Horstummheit). Patient can hear his speech and believes it to be correct in the enunciation, whether it be so or not.

5, Speech defects due to pathological conditions of the nervous system, as idiots, etc.

The patient whom I present today belongs to Class 3, division "B", namely, Rhinolalia due to conditions allowing the escape of air and sound, and I will therefore confine my remarks to this class particularly.

The cases are divided into **congenital** and **acquired**, the former are the many forms of cleft palate, hare lip, perforated pillars, malformation of the uvula, congenital absence of some of the palatine muscles. The acquired are those resulting from diseases such as syphilis, tuberculosis, diphtheria and other ulcerative processes. Those of traumatic origin, or those following bad results of operations for cleft palate. Further, those of paresis or paralysis following infectious diseases, in particular diphtheria. Marked adhesions of the pillars to the base of the tongue, as following operations on the tonsils. Shortening of certain muscles of the tongue, as spastic contractures; atrophy, partial or complete of the muscles of the palate, tongue, buccal and the mouth due to the faulty use of these organs in speech. This last named condition is present in my case. Mauken[3] describes a case very much the same as this one, but due to somewhat different conditions.

History: Eva E. 20 years old, born in Russia, was dropped from her mother's lap during a fire alarm. Her oldest sister states that previous to the accident she could not talk and when she began to speak afterwards it was intelligible to no one except the parents and sister. There is nothing in the family history, nor did she have any diseases of childhood which could have any connection with this speech defect.

Nothing was done for her until at the age of fourteen, when she consulted Prof. Hering of Warsaw, who she says burned something in her nose, but she could not keep up the treatment on account of lack of means, and after three treatments stopped. She consulted three other physicians in Russia later, but they could do nothing for her. The last one advised her the making of a plate by a dentist. At the age of eighteen she came to America, visited many clinics and was found to be an excellent subject for post nasal examination, on account of the rigid palate. Any novice could with ease examine the post nasal space, but for her faulty speech nothing was done. She consulted Dr. Ingals, who recommended a school equipped for the purpose of treating speech defects. She attended this school for a short while, but here also the lack of means prevented her from keeping it up.

She consulted me first at the clinic March, 1901, and I found the following conditions:

A well developed young woman, bright looking, but sadly lacking in education. Could neither read nor write except Jewish and spoke a poor German. She had the characteristic speech of a rhinolalia.

STATUS:

Nose. Right. The middle turbinal body hypertrophied, inferior turbinated atrophic. Deviation of the septum to the right.

Left. The same condition of the turbinated as on the right and the septum has a sharp dent near the floor of the nose.

Post Nasal. A small pad of adenoid, a chronic catarrhal condition of the mucous surfaces, the posterior ends of the middle turbinated somewhat enlarged; the oropharynx and larynx also chronically inflamed;

The Tongue is thick and moves clumsily.

The Velum moves only slightly on phonation and it is not possible to bring it against the

FIGURE 1.

posterior wall of the pharynx either voluntarily nor manually; i. e., it is too short. Liquids pass up at times to the nose and the patient is not able to gargle.

A test by the galvanic current proves that the neuro-muscular apparatus of the palate was intact, but feeble in its action.

The teeth are all in good condition except the right first bicuspid, which is absent. The articulation is fairly good. The **buccal muscles** and the **orbicularis oris** are poorly developed.

The Lungs are normal but breathing is shallow and when she speaks it is mostly with the effort and the use of residual air which keeps the pectoral and abdominal muscles in a rigid condition.

Otherwise she is perfectly normal.

Another factor in this case is the condition of intellectual deafness i. e., she believes that she speaks all right, the same as you or I, and when I would imitate her speech she would not believe that she spoke that way.

The treatment of this case was a very tedious one. In fact, it still is, for she must be constantly reminded when she makes a mistake or else she is liable to fall back into her old way of talking.

After six months of massage, electricity, exercises of the soft palate, no noticeable change was produced and I concluded to drop the case. I sent her to a school for children with defective speech, and after one month the teacher returned with her saying that she could do nothing with her. I then consulted Dr. Brophy, who advised the use of an artificial velum or a diaphragm, (Figure 1) which was made by Dr. Bullard. This did not improve her speech atall; only the timbre of the voice was strengthened somewhat.

I now contemplated the lengthening of her soft palate by a plastic operation, after the method of Gussenbauer, when reading in a Vienna journal the article of Gersuny, Moskowicz[4], in which he describes the use of parafine in a similar case. That is, a short palate in consequence of a staphylorraphy.

This made me very hopeful and I concluded to try it. Not knowing what a wonderful result I might obtain by this new procedure, I had made a record of her speech by the phonograph. A few days following when I unwound the cylinder into a talking machine and let her hear her own voice, she was very much downhearted because this was the first time in her life she heard how badly she spoke. This

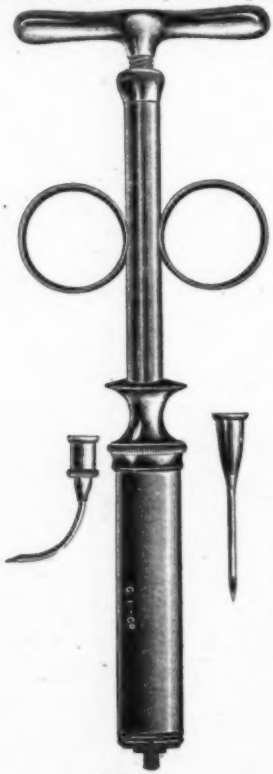

FIGURE 2.

suggested to me another method of treatment, that is, of her intellectual deafness.

In July, 1902, the patient was placed on a table with the head hanging over the edge, after the parts had been cleansed by post nasal douche and cocainized with a 20 per cent solution. (Figure 2.) Filling this syringe which has the following necessary principles:

1st. All metal.

2d. The piston moves by screw movement, allowing the parafine to flow out gently and in a semi-solid form. At the same time, being able to express any consolidated paraffine from the needle point.

3d. A cone-shaped termination of the barrel, as suggested by Dr. Suker, to remove any unnecessary obstruction to the outflow of the paraffine.

4th. A short, curved needle, with quite a large calibre, except at the point of insertion, preventing a too rapid cooling and hardening of the paraffine within it.

5th. A long attachment to the piston, so that the posterior wall of the pharynx could be reached.

With 15 c.c. of paraffine having a melting point of 120 degs. F. (Eckstein); and of this about 2 c. c. were injected below the mucous membrane on the left side of the posterior wall of the pharynx, on the plane where we would expect the soft palate would come in contact with the pharynx. Ice cold water compresses were applied for a few moments to this part and patient was instructed not to swallow nor speak in order not to change the position of the paraffine until it thoroughly hardened.

For about twenty-four hours patient had some pain in the side of the neck, particularly on motion, and a hard lump the size of a small hazelnut could be felt.

One week later an injection precisely the same was made on the right side, and the same care taken as before. A great deal more pain was felt this time after the injection, which I believe was due to the fact of injecting the paraffine deeper in the tissues.

Two weeks later a third injection, this time using 4 c. c. instead of two, in order to fill out the groove formed by the two previous injections. There was but very little pain following this last operation, but a constant desire to swallow and to clear the throat for about three days. The re-action of the tissues about these masses was not very great. Patient told me that she attempted to insert the plate, but this was impossible, for it struck against these masses of paraffine.

At this very time I noticed the first improvement in her voice, when she uttered the word "plate." Previous to the injections she could not say the consonants b, p, m, g, l, n, and others, but she can pronounce them now quite correctly. The regurgation of the fluid has stopped and she can gargle without any difficulty.

Since August, 1902, I have been drilling the patient according to the method of Liebmann[5], in connection with all possible adjuvants, such as breathing exercises, massage and electricity.

The improvement is very satisfactory. The patient can talk quite plainly; when speaking slowly, otherwise she winds up the sentence in the old-fashioned way.

The impediment to rapid progress is the inferior education she possesses, as well as the lack of means and time she is able to devote to this trouble. She is confined to her work all day as a shop girl.

I have secured for her a private school teacher whom I instructed how I want her to talk and she has just completed the first reader. She uses the phonograph to overcome the intellectual deafness.

It is true that the phonograph does not reproduce the voice or sound perfectly, but it does not flatter one by any means, so that the patient need not fear of becoming conceited.

I present this case at this time because the patient tells me that she begins to feel difficulty to talk the old way, and I desire you to hear her while it is still possible for her to demonstrate the difference in her speech. One fact she knows, that she has more power to speak: —she calls it more air in the mouth, and feels something pressing against her palate. The soft palate can be pressed backwards to meet the protuberance on the posterior wall of the pharynx with great ease, but the palatal motion is still very limited.

References:

1. Makuen—Therapeutic Gazette, Dec 15, 1896.

2. Coen—Wiener Klinische Rundschau.

3. Makuen—Philadelphia Polyclinic, Vol. V. May 16, 1896, XX.

4. Moskowicz—Wiener Klinische Wochenschrift, 1901, No. 15.

5. Liebmann—Vorlesungen uber Sprachetoerugen, Heft 5.

William L. Ballenger: I do not rise to discuss this paper, but I wish to say that I saw the case when Dr. Beck took charge of it. There has been a remarkable improvement in her speech since that time. Then it was almost unintelligible to me, except upon frequent repetitions. How much the improvement in her speech is due to the paraffine injections, and how much of it to careful training, I am unable to say. But the fact remains that there is great improvement.

Dr. Beck (closing the discussion): I brought this patient here for the purpose of demonstrating the educational side of speech defects. I stated in my paper that I drilled this patient in the matter of speaking before operation. The teacher who drilled her said it was impossible to do so in such a manner as to overcome the defect, the space between the posterior margin of the palate and the posterior wall of the pharynx was too large. Perhaps the injection of paraffine facilitated somewhat the improvement in speech, but the educational feature is undoubtedly the prime factor in this case. I would say, that all patients after having undergone the operation of staphylorrhaphy do not speak correctly until they have been educated to do so, and that is the point in my case. I look upon the paraffine as only an adjunct in the treatment, that is after the post nasal space could be separated from the oral cavity by the closure of the palate, the education of speech was made possible.

J. Holinger reported a case of **Tuberculosis of the Nose.**

Otto T. Freer read a paper on **Result of Microscopic Test in a Case of Nasal Perichondritis Shown at the Last Meeting, with a Review of the Diagnosis of Nasal Tuberculosis.**

At the last meeting of this Society I presented a case showing the following peculiarities. The patient's disease was confined to the nasal vestibule and cartilaginous septum. The latter presented a large perforation which reached back as far as the vomer and up to the perpendicular plate. It had for the most part, smooth, cicatrized borders with eroded places but displayed no ulceration. The triangular or superior lateral cartilages of the external nose were thickened by chronic perichondritis, while the right alar cartilage had disappeared, apparently by absorption and the wing of the nose was drawn inward and upward nearly closing the right nostril and giving it a notched appearance. The septum behind the perforation, the turbinated bodies, nasal floor naso-pharynx, pharynx and larynx were intact. A view of the interior of the external nose showed the mucosa of the nasal vestibule to be contracted, thickened and deformed by a sclerosing, cicatrizing process evidently due to some form of chronic inflammation which was, at the time of inspection at least, not accompanied by any ulceration or any pathologic tissue characteristic of any usual morbid process. I surmised that the trouble had a possible traumatic source on account of the rough way in which the patient had removed scabs from his nose ever since he had had an operation for septal deflection in 1894. He often used a nail head for the purpose and only the other day pushed a needle up into the mucosa of his left nostril to let out some imaginary discharge. I admitted that a syphilitic condition with perichondritis of the cartilages of the external nose could not be positively excluded, especially as syphilis need not extend beyond the cartilaginous skeleton of the nose, but could see no ulceration of tissue characteristic of syphilis and there was no evidence that the disease had ever been contracted. As the patient claimed that the disease of his external nose had only existed since October it would be reasonable to suppose that were his disease syphilitic there would be some active ulceration characteristic of syphilis present, but none was visible.

It hardly seemed possible to me that the disease could be thought tubercular, but to my surprise Dr. Holinger pronounced the case unmistakable tuberculosis of the nose and not an unusual but a typical case that is, an ordinary form of the disease. He did this from mere inspection of the gross appearances of the disease and stated that the chronic deforming sclerosis of the interior of the external nose presented by the case sufficed to stamp it unmistakably as tubercular and that it was not necessary that the products of tuberculosis, tubercles and ulcers as usually seen should be present. In other words, in order that the case should be tubercular it was not necessary to find tuberculosis. Dr. Holinger based his argument upon his memory of an article whose author and source he could not recall and upon his observation of a case which he said duplicated mine. As these views did not at all accord with my conception of tuberculosis of the mucous membrane or skin I decided to go more fully into the matter and to see whether Dr. Holinger's idea of typical tuberculosis of the nose agreed with that held by those who have written upon the subject. I reviewed therefore the literature of the subject quite fully for the past ten years in English and German publications and the abstracts of papers in other languages as presented by the Internationale Centralblatt fuer Laryngologie and found that my case far from being in accord with the descriptions of characteristic tuberculosis or lupus of the nose did not have its parallel in the literature of the subject.

There exist a number of carefully written articles on nasal tuberculosis and lupus, both affections usually being considered together. The most complete are those of Hans Koschier, including a report of 18 cases of nasal tuberculosis and 6 of lupus observed in Stoerk's clinic, the publication of Heryng with a collection of 42 cases of tubercular tumor and 48 of tubercular ulceration, and that of Maximilian Herzog, with a report of ten cases and the tabulation of 80 cases. The types described by the author are the tubercular tumor, tubercular infiltration, tubercular ulceration, lupus infiltration and ulceration. The tubercular tumor is the most frequent manifestation of nasal tuberculosis being present in more than half of the cases reported. It usually exists as primary tuberculosis and presents as a soft, grayish-red friable growth of fairly smooth surface, that bleeds readily when touched. These tumors almost always grow from the lower and anterior part of the cartilaginous septum. Tubercular tumor can of course be excluded in my case.

In regard to the second type of the disease, the ulcerative form of nasal tuberculosis Koschier and Heryng state to quote Koschier, that it "occurs only, as the authors without exception emphasize, in individuals who have tuberculosis elsewhere," that is, it is secondary tuberculosis. This is the only form of nasal tuberculosis that my case could possibly resemble and of it Dr. Holinger said that it represented a form that was primary and tended to remain local, a contradiction of the authorities as I have reviewed them. The ulcerative type of nasal tuberculosis also generally starts upon the cartilaginous septum. Koschier says: "Nasal tubercular ulceration anatomically presents the usual characteristics of tubercular ulcers of other mucous membranes." Tubercular ulceration of the nose does not therefore display a unique type of which my case was supposed by Dr. Holinger to be an example, but is like tuberculosis in other parts of the body. I quote Koschier further: "Preceding the stage of ulceration there is a short stage of tubercular infiltration which soon degenerates into the ragged ulcers with infiltrated base and border characteristic of tuberculosis. These ulcers usually are hidden by adherent crusts and when these are removed grayish-white nodules may be seen corresponding to the separate collections of tubercles. The edge and floor of the ulcer is apt to have rounded depressions which give it a gnawed out appearance. The nodules keep continuously forming at the border of the ulcer and break-

ing down. Before the process has had time to destroy much bone or cartilage the patient dies of tuberculosis." The ulcers usually spread onto the nasal floor and onto the lower turbinated body. Sprouting masses of granulations are also described.

This picture does not in the least resemble the findings in my case. The patient has no tuberculosis elsewhere. There are no ulcerations, infiltrations or granulations visible.

Dr. Holinger made the point that tuberculosis of the nasal vestibule is not tuberculosis of a mucous membrane, but cutaneous tuberculosis as the inside of the external nose is lined with skin and not with mucous membrane, and the ulcerations described are characteristic of tuberculosis as it appears upon the mucous and not the cutaneous lining of the nose. The disease in my cases is, however, not at all confined to those portions of the vestibule and septum lined with skin. The perforation of the septum extends as far back as its bony portion and therefore well into the mucous surface lined with ciliated epithelium and this perforation is certainly a part of the disease process and the oldest part and should present characteristic changes such as are shown in tuberculosis of the mucous membranes. It is also incorrect to speak of the lining of the nasal vestibule as composed entirely of skin. This covers, according to Zuckerkandl, only its lower portion a little above the inner surface of the alar cartilages while the upper part of the vestibule is lined by mucous membrane and as the disease in my case extends as high as the nasal bones we should also here have the changes characteristic of tuberculosis of the mucous membrane and not of the skin, were the disease tubercular.

Dr. Holinger first spoke of my case as nasal tuberculosis, later he referred to it as the form of tuberculosis called lupus. This was a distinct contradiction of his first diagnosis for though pathologically lupus and tuberculosis are the same disease, clinically the authors agree that both differ greatly. They all regard nodules, warty infiltrations and ulcerated nodules as characteristic of lupus.

Koschier does not describe hard dense cicatricial masses such as my case presents as the result of lupus but found in his cases small delicate scars. He discovered tubercle bacilli in the nodules but not in great numbers.

Jarisch, who has written the work on dermatology in Nothnagel's Handbuch, states that lupus within the nose appears in the form of soft red or gray granulations with purulent ulcers, papillary excrescences and mulberry like proliferations.

The description of Friedrich Hahn comes nearest to what Dr. Holinger thinks that he has found in my case. Hahn emphasizes what all authors do, that lupus often is concealed in the anterior part of the nasal interior and is supposed to be merely an eczema or chronic rhinitis until the external nose is attacked and lupus efflorescences appear upon its skin. Inspection then shows perforation of the septum, the borders of which are surrounded by a wall of granulations that bleed easily. At the beginning the diagnosis is hard, as one seldom sees red firm lupus nodules on the nasal mucosa, but rather infiltrations. The extension of the disease to the skin outside of the nasal cavity with destruction of the external nose comes as a surprise. In Hahn's cases the lupus began in the form of chronic eczema of the vestibule with diffuse infiltrations and later proliferations of hypertrophic granulations. Though this description comes nearest to the appearances in my case it shows no lupus efflorescences upon the skin of the external nose though it has had abundant opportunity to extend to it and merely distortion and not destruction of this organ, and no granulations or infiltrations.

Koschier found lupus nodules in all cases, often coalesced in the form of large warty infiltrations. Hollaender states that destruction of a coarse order, as shown upon the septum in my case is not characteristic of lupus vulgaris. He describes lupus of the nasal mucosa as marked by crust formation rhagades, lupus ulcers and tumors. In the later stages he states that lupus of the soft palate, pharyngeal wall, epiglottis and larynx are almost never absent. There is no such involvement in my case. The lips, gums and conjunctiva may be also involved. In extreme the nose becomes a spongy tubercular mass that is broken in by the first trauma. This is not in accord with the sclerosed condition shown in my case and regarded by Dr. Holinger as typical of lupus.

Lupus is generally a disease of early life but in rare cases may begin at any age.

For the purpose of histologic diagnosis I removed a piece from the only region of the nasal interior that could have formed a possible seat for tubercles, the fistulous pocket in the mucosa behind the left triangular cartilage. Examination of this very firm substance shows merely very dense connective tissue. No lymphatic tissue, giant cells or even round cell infiltration. Therefore histologically tuberculosis has not been found in my case. The sentiment of the writers is that the existence of nasal tuberculosis or lupus is not proven without a microscopic test, as the affection is too rare to acquire experience in making a naked eye diagnosis, in fact is one of the least seen nasal diseases. Koschier found bacilli in the tissues of both lupus and tubercular cases.

As dermatologists are more familiar with lupus than others I showed my case to James Nevins Hyde who inspected the nose within and without and declared without hesitation that there was neither tuberculosis nor lupus present. His reasons beside the impression gained by inspection were:

The occurrence of the entire disease since the year 1893, a period of time too short for such extensive destruction of the septum to occur in lupus. He quoted Hebra in stating that in cases in which lupus developed after the thirtieth year there was always a history of tuberculosis in the first decade of life.

Forchheimer of Copenhagen, Finsen's assistant, states that perforation of the septum very rarely occurs in lupus of the nose.

The absence of lupus nodules in the nose and in other parts especially the gums disproves the existence of lupus. The process from last autumn until now as a result of which

the nicking of the right ala has occurred is far too rapid for the advance of lupus.

I have not found the adherent crusts described as characteristic of lupus and tubercular ulcers in my case although the patient speaks of removing them. In fact during my long observation of the case I have never seen a crust.

Specific treatment has had no decided effect on the affection and I am still of opinion that chronic simple sclerosing inflammation may be the cause of the patient's trouble, the cause of which is obscure and possibly traumatic. The loss of the right alar cartilage is not due to a cicatrized ulceration as I thought at first, but frequent inspection has shown me that it was caused by absorption of the cartilage and consequent loss of support to the ala, which has suffered some shrinkage. The insertion of an Ash tube will nearly restore the form of the wing of the nose, which is hard and thickened. I do not think that a positive diagnosis can be made in my case, but feel that I have definitely excluded tuberculosis of the nose and think that the difference of opinion in regard to the diagnosis has aroused interest in the subject and I hope that the large material at the command of the members of this Society will furnish us some cases for study.

William L. Ballenger opened the discussion on these papers. He said:

I have taken a cursory glance of the literature for the past sixteen years in order to learn the various points of view from which this disease is regarded. I have been especially interested in the great variety of clinical descriptions, and have arrived at the conclusion that if one is to depend upon the published descriptions of the tuburcular lesions of the nose that it will be impossible to find a very general unanimity of opinion as to its clinical manifestations. Didactically the writers agree in a general way in classifying the manifestations of nasal tuberculosis under four general headings, namely:

(a) Tuberculoma,
(b) Tubercular ulcer,
(c) Scleroma, and
(d) The pedunculated or polypoid type.

When it comes to the description of cases under any one of these general types there is such a great variety of appearances that it would be very confusing to one who had seen but few of these cases, if he should attempt to find in it the varying symptoms described by the writers. He might, perhaps, be able to find one author who would describe the disease in such a way as would seem to fit his case, while the others would give a description which would not at all describe it. All authors practically agree, that, in the ulcerative type, certain characteristics are, or should, be present. For instance, they usually say that the ulcer is limited to a definite area, from the size of a split pea to a 25 cent piece, oblong in shape, the edges being either raised or everted and sharply cut; the color being pinkish gray after the muco-pus has been removed. They also say that there may be small tubercular nodules, yellow in color, at the periphery of the ulcer and that they usually soon ulcerate.

They are also pretty well agreed in stating that the location of the ulcer is usually on the anterior portion of the septum. Additional statements are made to the effect that the tubercular nodules are not always present, nor are the other symptoms as described above; but that they may vary within a wide range of manifestations. They also tell us that the presence of laryngeal or pulmonary tuberculosis will aid in arriving at a diagnosis.

In regard to the tuberculoma, there is not such a wide difference in the description, although even here it would often be impossible to make a diagnosis from the mere clinical manifestations of the case. In the reports given it is even shown that microscopical sections of tubercular nasal lesions are not always characteristic of this form of infiltration, but if the characteristic tubercular cell arrangement is found that diagnosis is settled. The reports also show that bacilli are not always found in the section nor in the secretions; that is, staining the sections and secretions does not always show them to be present. Other cases reveal the fact that, whereas, the primary lesion in the nose does not reveal bacilli upon staining, the subsequent ulcer or tumor appearing in the pharynx or larynx may show bacilli to be present. One very interesting case was reported by Juffinger: Age 21, reddish growth on right side of nasal cavity associated with lupoid nodules on face and nose. The growth contained Koch's bacilli. A curious thing about this case was that twelve brothers and sisters of the patient had died of tuberculosis. In Hajek's case no bacilli were found, but a tumor appearing in the pharynx at a later time contained them. He remarks that bacilli may or may not be found upon microscopical examination.

Seifert reviewed 38 cases, in 19 of which no signs of tuberculosis were present in other organs of the body.

Grossard reports a case of mixed syphilitic and tubercular disease of the nose, while Wagnier reports that control experiments proved the identity of lupus and tuberculosis.

While it is not common to find the tubercular bacilli in the nasal discharge from man, Shurley reports the case of a monkey in which the bacilli were found in the discharge. Upon post mortem examination he found no signs of disease in the other organs.

H. Krause reports a case in which Koch's tuberculin was used and was followed by a reaction of 104° F. The first five injections were followed by a severe re-action and the sixth by improvement.

Chiari reports that he only found six cases of nasal tuberculosis in 6,000 cases treated by him in four years, thus showing the disease to be comparatively rare so far as his observation goes.

Simoni describes Pseudo lymphoid lupus, which is a polypoid and pedunculated tumor of tubercular origin. This is caused by the most attenuated tubercular bacillus affecting the nasal mucous membrane.

Orlandi makes an interesting review of a case affecting the cribriform plate and ethmoid bone and the meninges. The viscera were

negative. Pus was injected into guinea pigs and bacteriological examination showed tubercle bacilli. In an editorial by Sajous he makes this significant statement, "Judging by the number of cases reported, nasal tuberculosis is by no means as rare as was formerly supposed."

Lennox Browne and others state that bacilli may be found in the deep scrapings when they cannot be found in the superficial tissue.

Finally, W. Milligan of Manchester says in regard to the diagnosis of tuberculosis of the upper respiratory tract, that the best and most reliable means of diagnosing is by means of inoculation experiments.

In a case reported by me two years ago my diagnosis of nasal tuberculosis was confirmed by the inoculation of a guinea pig in which, after four weeks, tuberculosis of a very virulent type developed.

It would appear from this hasty review of a small portion of the literature upon this subject that nasal tuberculosis may manifest itself in multitudinous ways, and, it is no wonder that the physician who only occasionally sees a case is in doubt as to the diagnosis. The written description by any one writer will not convey a good description of any other case. It is only in the ulcerative variety where the little yellow nodules or tubercules are present at the periphery of the ulceration that a positive diagnosis can be made without resorting to the use of the microscope, or to injection of tissue into the guinea pig, or, if tuberculosis in other organs is excluded, to the use of Koch's tuberculin. It is not probable that in more than half the cases of true nasal tuberculosis, in which the scrapings are examined microscopically that the bacilli will be found. Therefore, this test, if negative in character cannot be regarded as conclusive. The injection of some of the diseased tissue in guinea pigs, is, perhaps, the most reliable test at our command if proper precautions are taken to wash the surface of the tissue so as to exclude the accidental tubercle bacilli which happen to be lodged upon the surface.

In conclusion then, I would say, that nasal tuberculosis is a disease which can occasionally be properly and positively diagnosed by the (a) clinical appearance of the growth or ulceration and that more rarely by (b) microscopical examination of the discharge and scrapings of the tissue. (c) The test next in order is that of the injection of tuberculin with a view of eliciting the re-action peculiar to tuberculosis. It is obvious, however, that this test can only be of value in those cases in which the disease has been present in the nose for many years and careful examination of other organs of the body have shown them not to be involved. (d) The fourth and most conclusive test then, is the injection of the diseased tissue into guinea pigs, in which, after from three to six weeks, the post mortem examination should be made to determine whether or not the inoculation has produced tuberculosis.

Henry Gradle was asked to say a few words on the subject. He said: I can only add from my limited experience to the opinion expressed by Dr. Freer that tuberculosis of the nose is very rare. The description of it in my book is based largely on the literature. I have only seen one sure, and one doubtful, instance of it myself. From what I could gather from the literature and descriptions, such cases are exceedingly rare. The case Dr. Freer has shown does not answer to the clinical descriptions of tuberculosis.

Homer M. Thomas: Confirmatory of the remarks made by Dr. Gradle, relative to tuberculosis of the nose, I might say that I have been studying my cases carefully for over twenty years, and I have never seen them simulate tuberculosis of the nose, hence its extreme rarity is unquestionable.

Joseph C. Beck: I was very fortunate during my stay in Vienna to see Hazek show three cases of tuberculosis of the nose. He proved they were such by the points and methods emphasized by Dr. Ballenger. Those cases did not look anything like either one of the cases shown here. In the cases I saw the lesions were polypoid in character, but purely tubercular. The three cases were followed out, and tuberculosis of the nose was verified by microscopical and bacteriological examinations, also by injections of tuberculin. Each case gave the re-action to tuberculin, and one case gave a re-action of 106, but his usual temperature was only 100½° or 101° in the afternoon. Bleeding on touch was marked in one case where the polypoid variety of lesions was present.

J. Holinger: I thank Dr. Ballenger for his support. As to the fact itself, I was requested by the President at the last meeting to bring literature in regard to tuberculosis of the nose, and, if possible, the patient I spoke about, which I did.

Dr. Freer (closing the discussion): I consulted Professor LeCount in regard to the guinea pig test and he told me that it was so unreliable as to be misleading. Accidental contamination of the surface of the nasal mucous membrane with tubercle bacilli is so common that quite possibly a guinea pig would become tubercular as the result of inoculation with the suspected tissue even if this contained no bacilli in its substance. After having Dr. Hyde declare my case not tubercular and after the negative findings of the microscopic examination I did not think the tuberculin test necessary but if I can get the consent of my patient I shall try it.

Myxoma. Presentation of Specimen; Exhibition of Microscopic Slides; History of Case, and Operation.

Homer M. Thomas: The tumor which I wish to present is a myxoma. It weighs 15½ grains, Troy. As you are all aware, the most common form of nasal tumor is that of myxoma. It is the lowest grade of adult connective tissue tumors. As regards the etiology, there are many theories, but as yet there is no accepted conclusion with reference to the cause of myxoma. My personal belief is that it arises from a hyperplastic exudate within the nasal mucosa, depending upon changes produced by chronic inflammation. Myxoma is a very common tumor of both the nasal and post-nasal passages. Myxomata are frequently associated with infectious processes or lesions of the acces-

sory sinuses, associated with necrosis of the ethmoid cells and may originate in these sinuses. Age varies, but they are usually found between the ages of fifteen and thirty years. They may be single or multiple. Tumors of the sessile variety are much harder to remove and are more likely to recur and become the seat of sarcomatous growth. Their size is influenced by barometric changes. As regards the site of them, they originate from the middle turbinated bone. In color they are gray and translucent. Papillary, edematous, polypoid tumors are irregular, and have wave-like projections, with elongations of a row of epithelial cells on the surface. The size varies from a pin-head to include almost complete occlusion of the naso-pharynx. The tumor passed around for your inspection was attached to the middle turbinated bodies of both sides of the septum, and extended backwards into the naso-pharynx and downwards, until it was easily seen at the superior border of the soft palate without elevating the palate.

The pathology of these tumors consists largely in a sac of connective tissue with epithelial covering, containing fluid of a highly mucoid character, spindle-shaped cells and fine trabeculae of connective tissue. The blood vessels are clearly outlined in the mucous membrane lining the tumor, and the blood vessels rarely ever penetrate the tumor mass.

Under the microscope this specimen shows many elongated, branching cells, the prolongations of which intercommunicate freely in a homogeneous mass. They are analogous to Wharton's jelly, and tissues of the lower type. Interwoven through this almost structureless mass is a firm connective tissue stroma, more dense in places, especially near the surface of the tumor. The fibrous tissue shown here is often misleading, and a diagnosis of fibroma is made in just such types of tumors as this, owing to the amount of this connective tissue. The blood vessels are quite numerous throughout, being most plentiful where the connective tissue is densest; while in the gross specimen hemorrhage is of little or no consequence. Under the microscope the question of the malignancy of the tumor is frequently raised, owing to the number and thin walls of the blood vessels. Polymorphonuclear leucocytes are also seen in this specimen, which indicate some degree of infection, which is not strange when we know that the growth hung in the naso-pharynx. The epithelial covering of the tumor is often of the ciliated variety.

With reference to the case in question, the patient was Mr. F., aged 21, who had been afflicted with what was pronounced by his physician nasal catarrh. The diagnosis was made from a statement of the symptoms of the patient, and without examination of the nares or pharynx. The patient was instructed to travel throughout the South and West, with a view of obtaining a cure of his catarrh from climatic influences. He traveled in Texas, Tennessee, Georgia, and in Colorado quite extensively for over three years with no amelioration of the obstructive condition. At the end of this period, after having spent much time and money, he returned to his physician, who then, for the first time, inspected the nares and naso-pharynx, and the tumor that you see was discovered. He was referred to me, and the operation of removal of the tumor consisted in spraying the parts with adrenalin solution, and then the introduction post-pharyngeally of a wire snare, which very easily engaged the lower third of the tumor. The tumor was very easily removed by slight traction. There was very little hemorrhage following the removal of the tumor. The patient is now breathing freely through the nose, and is practically cured of any disturbance he had from the presence of this tumor.

John Edwin Rhodes,
Official Reporter.

The Physician's Club of Chicago held its regular meeting at the Sherman House, March 30, 1903. Henry T. Byford presided. The topic for discussion was **The Race Problem in the United States.**

In the absence of Graham H. Harris, Esq., formerly president of the Board of Education, G. Frank Lydston was called upon to open the subject. He stated that the color line as drawn in the United States and especially in the south, is not a theory, but a condition which must be met and settled sooner or later. The issue could not be dodged and the whole question is becoming more and more insistent. Much of the feeling in the south against the Negro has been fostered by northern newspapers either through ignorance of the exact state of affairs, or through bias and purposes political, ambitious, financial, profit and otherwise.

There is no subject of equal importance before the American people today. We speak of the northern conscience in regard to this matter, but the northern conscience is in its last analysis largely the product of the balance between profit and loss. The commercial and financial question has a whole lot to do in connection with the northern view of this race problem as it presents itself in the south. The first great wrong that was committed by the white race was the enslaving of the blacks; the second was the giving them their freedom in the way that it was done. For years slavery kept the black race in a most unwelcome and unwholesome environment; gave them no moral training; kept them as helpless as children; and endeavored in no way to lift them up to the full stature of manhood and citizenship. Then came their emancipation; complete freedom with all its responsibilities, for which they were absolutely unprepared. But even this was not enough, it seems. For the Negro, uneducated, untrained, just escaped from bondage with all its long years of vicious training rather, was given the power to vote, one of the most responsible duties of a citizen. For this great error the Republican party of that day is answerable. How could it have been expected of such a freed man to exercise the right of the ballot intelligently? But that made no difference; votes, mere numerical votes, were what was wanted, and as the Negro looked to the Republican party for his deliverance from slavery, so now it was an easy matter to get him to cast a vote, unintellegently

though it he so far as he himself was concerned, in favor of the Republican candidates. The "carpet-bagger" was much in evidence in those days and his existence was largely the result of this sudden enfranchisement of the ignorant freedman. The carpet-bagger and his influence had much to do in disturbing the harmony—what harmony there was— between the black and white races in the south. The whole question of slavery, its existence, its termination and its ultimate results is most decidedly a national question. But strange to say, the race problem as it now confronts us is regarded by many people in the north and south as a strictly southern problem. This is a mistake. It involves the whole nation, and just as the whole nation at one time permitted slavery, so now the whole nation is concerned in the removal of its unfortunate results. It is only in America and here in the United States that this color line is drawn so sharply. Neither in England nor on the continent is the Negro regarded with such aversion as he is here. Hence there are local causes for this feeling, aside from that of mere color and these are largely of the nature of prejudice.

Much of the trouble with the southern blacks of the present day turns upon their immorality, and yet the whites are largely answerable for the negroes moral conceptions. In slavery the Negro was a mere piece of property, a sort of useful, pet animal, profitable to breed; therefore he was not particularly encouraged to be scrupulously moral, but rather to breed and develop in numbers. Is it any wonder then that he now fails to comprehend the sanctity of marriage and moral restraint. All through slavery the standards of morality were difficult as between the white and black races. Laxity among the latter was winked at and in some quarters even encouraged for purposes of profit. Since the emancipation of the Negro, the relative position of the two standards of morality have shifted somewhat and the colored man is held to a stricter accountability in regard to his mode of life than is the white man. The Negro woman is treated as if she had no soul and men use her for purposes of prostitution who would not think of using the white woman to the same extent. The relationship of the white men and black women in the south is not unknown. Perhaps it is no worse than the same sort of prostitution everywhere, but the curious feature about it is that the same leniency is not extended to the black man for his immoral tendencies as is extended to the white. When the black man commits a crime in the south there are lynchings and other lawless outbursts of passion and bad feeling, but when the white man commits the same sort of a crime, the court of justice takes charge of him, a trial is conducted and the legal punishment is meted out. All of this demonstrates that the same laws of morality, and justice are not instituted for the two races alike. The dominant race acts not upon principle, but upon feeling and prejudice.

The Negro in the south is undoubtedly in a low stage of development. He is ignorant and almost savage but he has vast possibilities in him as shown by such examples as Booker T. Washington, Stephen Douglas and the gentlemen present at this meeting. It is a great mistake however to take this brilliant example as an average possibility as much as it would be to judge the average Englishman in Queen Elizabeth's day by such men as Shakespeare, Raleigh and Bacon. Between the southern blackman and the examples cited, there is an average which can and will be struck if the race is given a chance and the time.

The speaker frankly confessed that he could see no solution of the race problem, that would ultimately wipe it out altogether but miscegenation. Intermarriage will so amalgamate the race, that the present prejudices will of necessity vanish. The justice of voluntary miscegenation is not open to question. Everyone should have the right to marry whom he pleases. Legally or illegally the two races will thus more or less intermingle. There should be no barriers set up against this intermarrying of the races. In time if this intermingling of the racial blood were permitted there might develop a superior race certainly there would be a most complete and natural solution of the racial problem. Unless some solution of the problem is obtained, there will be the outlook for a most disastrous racial war. The blacks will not be kept down, increasing numerically as they are and developing amongst them here and there men of intelligence and power who will be able to lead them into the conflict for their rights of equality.

The next speaker was C. S. Bacon who presented a paper, an abstract of which is as follows:

The Race Problem.

The 12th census shows that the Negroes are increasing in number in this country nearly as fast as the whites. Their birthrate is even higher. There are now about 8,840,000 Negroes including mulattoes in the United States; this being an increase of about 1,350,000 or 18 per cent during the last decade. They will probably continue to constitute about one tenth of the population for years to come.

The morbidity and mortality of the blacks is however considerably greater than that of the whites and seems to be increasing while the white mortality is decreasing. Malaria, yellow fever, consumption and lung diseases are the chief causes of sickness among adults. The infant mortality is very great and probably due in great part to neglect. This large infant mortality is of much importance, for it follows that a larger portion of the Negro population is found in the early age groups and a less number in the older and more valuable members of society.

The mulatto is more sensitive and less resistant to disease than the full blooded Negro.

Amalgamation of the white and black races will probably never occur. Perhaps one tenth of the colored population is now mulatto. By mulatto we mean one who has one half or more white blood. In order that this population of mulattoes be maintained it will be necessary for the mixing of white and black to continue at the rate of 10 per cent, that is one tenth of the colored children born must have one white par-

ent. Much mixing went on under slavery, during the war and for some years after the war. Lately the growing tendency of the Negroes to segregate and the race antipathy will begin to reduce the rate of amalgamation.

The tendency to Negro segregation is a very important deduction from the study of the movements of the Negro population. In the North the number of Negroes is decreasing and they are colonizing in cities and there in limited quarters. They are migrating from the border states. In the South they also congregate in the cities. In the agricultural sections they are found in increased numbers in certain sections which form the great black belt. The continuation of this tendency may result in the formation of Negro reservations similar to the Indian reservations. If the race degenerates and proves unable to hold its own these reservations will be gradually contracted until the Negro will be eliminated like the Indian. If the effort to improve the physical, economical and moral conditions that is now being made by the great and wise teachers of the industrial schools should succeed the Negro reservations will become valuable parts of their respective states and of the nation and will deserve and secure their autonomy.

The means of improving and saving the race are not the suffrage nor an impractical education but rather the industrial education just mentioned. Another valuable help would be the adoption of a thorough system of public health supervision. Especially in the cities such a system that would not only keep them clean, control contagious diseases, provide thorough vaccination, prevent the sale of contaminated food, but also supervise the lives and habits of the people would not only prevent much sickness but have also an important educational influence.

The Rev. R. A. White the next speaker, said he had just spent several months in the South, studying the question. He would merely attempt to give some impressions he gathered. He is convinced that the whole race problem is in its last analysis a mere matter of race prejudice. If this prejudice of the whites against the blacks could by some miracle be gotten rid of, there would be no longer any problem. If the mere personal feeling in the matter could be eliminated, the whole question would soon work out its own solution. Three things seemed to him to stand prominently out as abetting the feeling that exists between the races. For these the white race is responsible. The whites seem to feel especially, (1) social equality, (2) political supremacy of the blacks and (3) their industrial competition. The speaker emphatically wished to be understood as not in the least criticising the southern whites. The probability is that the northern white man would act the same and feel the same as the southern white were he in the latter's place. It was nothing less than a crime to bestow the franchise upon an ignorant race such as the southern blacks were after the war. The government spent millions of dollars to preserve the black man's right to vote, but not a cent to train and educate him how to vote or to exercise his franchise intelligently. The whole question, was one of personal politics and of course was bound to result, under the conditions existing, in gross errors and wrongs.

The fear of social equality is not altogether unnatural but yet a little calm consideration will show that social equality is hardly possible. In fact the southern Negro does not want or expect social equality as the white man fears it. He does not expect to affiliate with the white man in his social life. All he asks for is the equality he is entitled to as a free American citizen. The fear of political supremacy is also natural as the blacks in some parts so far outnumber the whites. The only offset to this fear, so long as the blacks hold the right to vote, is to educate them and elevate their morals. The white race is largely responsible for the present condition of the blacks in regard to their morals and intelligence, therefore they must bear with them until they have regained their normal manhood and the desired intelligence. The industrial competition of the blacks gives rise to a very natural fear as here and there they are amassing wealth and taking quite a prominent place in the commercial and industrial world.

The unfortunate part is however that these various fears are now passing over into the field of education. At first the south favored the education of the blacks; now it fears this educating of them because it favors their rise in the social, political and industrial spheres. The cry in the south now is against the education of the Negro.

In regard to the immorality of the Negro, who taught it to him? The Negro has had but 40 years of freedom and civilization whereas the Anglo Saxon has had 4000 years. The wonder is that the difference between them in regard to morality is not greater than it is. This is not said in criticism of the south, however. The south has a great burden laid upon it and an immense responsibility. Even in spite of the short time and the many handicaps, the Negro has improved and the situation shows signs sufficiently marked to give one hope for the near future. It is wrong to compare the poor Negro with the rich southern gentleman. He should be more just compared with the poor and downcast whites of whom there are enough and to spare in the south. The problem of the so-called "white trash" is almost as serious a problem as that of the Negro. These whites live in back woods, in huts and hovels. They are without schools. Their lives are a barren waste. They are not much above the Negro and yet no one speaks of a problem in regard to them. Therefore it is plainly a question of the color of the skin. Give the Negro half a chance and he will come out all right. The signs are hopeful. He is rapidly amassing wealth. In one place a whole village is owned and run by a wealthy Negro. Property to the amount of $50,000 and $75,000 is frequently owned by colored men. In Virginia the black men own one-third of the land. In Alabama the white poll tax amounted to $8,000 whereas the colored amounted to $15,000. In Richmond $135,000 in banking are held by Negroes. The early education of the Negro, as for instance in Latin, Greek, Music, etc., was ridiculous. This worked him harm and now the southern whites are turning against education as a solution of the

race problem. The education that the Negro needs is the education that shows him that work is honorable and teaches him how to work and to do things. Booker T. Washington is doing the grandest work of any one man for the south and his methods will go farther to solve the problem than anything heretofore proposed. Strange to say, however, there is a strong antipathy to Mr. Washington throughout the south. Everywhere the south says to the north "hands off" this is our problem and we will solve it. Such expressions were heard before the war in regard to slavery. No, this is a national question and if the south cannot or will not solve it, the north will go down there and solve it for them.

William A. Pusey spoke next and stated that the biggest problem is to teach the northern white man the point of view of the southern white man. He was acquainted with the south, having lived there a large part of his life. He objected strenuously to the wholesale charge of immorality in the south. Prostitution and the "sowing of wild oats" among the young men is no greater there than everywhere else. The only difference is that in the south the Negro woman offers the readiest means of yielding to this passion. The question of immorality applies as much to the north as to the south and hence is not in any sense a part of the so-called race problem. It is an unwarrantable assumption, a mere attitude of virtue for the north to prate thus about the immorality of the men of the south.

Again, the lynchings for crimes against women in the south are exceedingly rare. Lynchings do occur in the north, though rarely. That is hardly a fair question to discuss as a part of the race problem. It is rather a question of law and order and applies to black and white alike.

Miscegenation as a solution of the problem is merely a doctrinaire assertion. The south however, is not opposed to it, if it is practicable and able to settle the question. The speaker does not believe it will to do so however.

As to the race prejudice, so much spoken of tonight, two things are to be said, first, it is extremely irritating to be surrounded by a vast, idle, inexpressible, ignorant population as the whites in the south are by the blacks. Secondly, it is most annoying to have someone else, some outsider, everlastingly coming in to solve one's own difficulties. The north has exercised a mischievous interference in the south. Instead of northern complacency, there is a superior assumption of virtue. This race problem in the south is no greater than the labor problem in the north. The speaker then argued and illustrated from personal knowledge the childishness, inferiority, and primitive tendencies of the Negro. He shows no initiative in anything. He is a slave and servant at all times. He loves much finery and variety. He steals and does many things that reveal his undeveloped condition. Therefore he is not the equal of the white race. The fear of social equality referred to by Mr. White, does not exist in the south.

The solution of the troublesome side of the problem, so far as the south is concerned is undoubtedly the disfrachisement of the Negro.

Charles E. Bentley presented a paper as follows:

The Race Problem in the United States.

The Anglo Saxon has been characterized as the "most arrogant and rapacious, the most exclusive and intolerant in history." And one could add that he is a true lover of a square fight and usually gives the other fellow a fair show in the game. There is evidence of that spirit in this discussion tonight, and the many of like character which are taking place in all parts of the country, where the fellow against whom a fight is made is not to be condemned unheard, but is asked to state his "case in equity."

The Negro race has a growing number of students trained in sociological and ethnic knowledge, who have devoted their lives to the study of the question under dispute, and whose mental alertness and complete training make them the champions to whom we look for our defense. I could wish that one of these experts could assume my part of the responsibility of this evening. However, every thinking, conscious Negro in this country lives closely to these questions, which make towards the present and future happiness of his people, and when the opportunity offers, he must speak with what strength may be given him of this which is of such vital importance.

I will use my few minutes in speaking of one phase of this question, the present most acute symptom of the Negro problem—the disfranchisement of the Negro in certain States of the south.

Now, Mr. Chairman, it is a fundamental principle of good government that a State should do what is best for the largest possible number of its people. The State may take away privileges from certain of its people ,in order to protect its best interest. Failure of an ignorant group to understand the meaning of the franchise might be just cause for its forfeiture. No educated Negro objects to this. But that the ignorant Negro group should be singled out from other groups of ignorant, is what makes a stench in the nostril of any man who has spelled the first syllable in the meaning of the word democracy. It is unjust and unconstitutional, and can only stand on the ruins of a great republic.

What is the basic cause which is responsible for this feeling against the Negro? The different manifestations of this cause are so varied and often so inconsistent that they are at times confusing, but after the last analysis you will find that the real cause is prejudice—and prejudice can be said to have as its fundamental root the fact that one man has something which the other has not, and is his superior in some respects.

The intelligence of a State finds between itself and an ignorant white group merely a difference in development. When it twins to the ignorant Negro group, it finds in addition to this difference in development a racial difference, out of which grows an **emotional issue**, which is stronger than love of country, stronger than al-

legiance to the very spirit of the government, for which their forefathers fought and died. This emotional issue, which we call race prejudice, is so strong, virulent and apparent that it has been found to be the most effective weapon upon which to rely in any racial emergency. The realization of the potency of this weapon is seen in any political conflict in any southern state, where the votes of white and black are about equal, when the cry of Negro domination is sufficient to cause all the whites to vote one way. Let us repeat. The stability of a democracy depends upon the intelligence of its constituent units. The American Democracy, at the time of the emancipation, found on its hands a large mass of unintelligent units. It sought to make of them worthy units by granting them immediate franchise. Did it succeed? Those who would deprive him of this privilege say No, that the Negro has not qualified himself for this high trust. That is the alleged reason —but it is only a partial one.

In considering this disfranchisement of one group of Americans, we can, without partiality, recount three charges:

1. The alleged charge that the Negro has failed to qualify.

2. The intelligence of certain States seeking to protect themselves by excluding ignorance —ignorance and Negro, in this case, being the same thing.

3. The effort of a machine to control politics.

As to the first, it must be admitted that there is a large number using the franchise unintelligently—just as there are large numbers of unintelligent white voters in all parts of the country. Perhaps it is for the best to restrict the franchise, providing it applies to all alike, regardless of color. We have to-day a growing number of Negroes who are able to use the franchise intelligently. This fact indicates that the Negro has made some advancement in civic worth. The most intense negrophobist must admit that the Negro has advanced along the lines of civil and industrial progress. Now, if you claim that it was a mistake to give him the franchise at the beginning, you must face the question, whether, if he had not started with the franchise, he would have made the same advancement in civic worth, and in intellectual and material advancement that he has made?

The nation, after emancipation, was confronted with a condition which had to be met. The ways and means had to be devised which would secure the protection of the Negro politically and otherwise, and that would give him a basis for advancement. The franchise was given him as a means of securing political and civil rights, this being used as a means to meet a serious and complicated emergency. This condition was the culmination of a long series of causes. A nation, sick from a most terrible struggle, was forced to get rid of the results of slavery, and this could not be done without most painful travail. One hesitates to say so, yet in the light of history one is not entirely unjustified in saying that in a democracy, as the United States that kind of condition could not have been conquered without some attendant corruption. Witness, the Tweed ring the army scandals and the Credit Mobilier. All—like the reconstruction scandals—the result of the condition in which the nation found itself.

The man of fair and unbiased mind, before he decides that reconstruction was a failure, and that the franchise given to a recently freed people was a mistake, cannot escape a certain duty. To-wit: He must show that the non-granting of the franchise would have caused less corruption in those unsettled days of upheaval. He must show that without the franchise the Negro could have been secured in his political and civil rights. He must show that without the actual possession of the franchise the Negro would have put forth the same effort, and have made the same advancement. The franchise held before him as a something which not he, but his children, would realize would have made a glorious ideal for his aspiring. But not ideals, but the concrete, appeals to ignorant minds. A granted franchise was the concrete. In using it he had made mistakes; he has not attained all that was expected, perhaps, but lacking it, set adrift in uncertain and conflicting streams, with no spar to which to cling, would he have stemmed the current even as far as he has?

As to the effort of the intelligence of certain states to protect themselves against ignorance—which takes the form of that worn-out shibboleth, **social equality,** a little clear-headed, disinterested thought will show on what a frail foundation it rests. Search up to the very dawn of history, and you will find no instance where ignorance has dominated intelligence. It is the intelligent minority that has ruled the affairs of men since in Eden that wily minority of one found a way to affect and change the entire lives of a guileless and unthinking majority.

Social equality does not mean social affiliation—let us bear in mind; and it is a lack of clearness in definition which makes a confusion of ideas in this case. Social affiliation is, perhaps, as distasteful to the Negro as to the white man, but social equality he must have, as it is the *sine qua non* of an equality in all the lines of life which make for the fullest development of his manhood. It means an equality of opportunity, lacking which he must be very heavily handicapped in the material as well as spiritual race he must run. (Extract from Dubois).

The strongest cause for the Nergo's disfranchisement, to my mind, is the effort of the machine to control politics. The strenuous objection that the south makes to a reduced representation seems to indicate this. In their effort to control, they would destroy the cornerstone of our democracy.

The very essence of a democracy is incorporated in the words of the constitution, which specifically states: "Governments are instituted among men deriving their just powers from the consent of the governed." For any group of men to be governed without any word as to the form or character of that government, without such modification being applied to all alike, becomes a menace to our republican form of government, and makes of the Constitution a worn-out platitude.

As Abraham Lincoln long ago said: "No man is good enough to govern another man without that other's consent."

This prejudice against the Negro is most brutal and unjust, and seems to increase in proportion to the progress which the Negro has made to a higher manhood. Increase in intelligence, development of higher character and a greater strength in things material have had no power to mitigate in the slightest degree this most inhuman discrimination. In the light of this fact, it is but just to demand that the Negro should have the one weapon which could insure him his social and political rights, the only means by which he can prevent the utter destruction of his civic manhood.

"Better all men up than some men down," has been said by one of the most courageous and most just Americans who has ever been placed at the nation's head. Because of his race to close the door of opportunity against any American, in this nation of many races, is in direct violation of that Constitution which he has sworn to uphold, and even those who are not of his political party must honor Theodore Roosevelt for his loyalty to his oath, as well as the broad humanity which guides him to the clear construction of the obligation of that trust.

I can do no better than to close with another sentiment of this man of strong soul:

"When all is said and done, the rule of brotherhood remains as the indispensable prerequisite to success in the kind of national life for which we all strive."

S. Laing Williams, Esq., followed Dr. Bentley, thanking the Club for the privilege of speaking in behalf of the colored man. The problem is a dark one indeed. The educated Negro realizes all but too keenly that there is a race problem. It confronts him on every hand in his daily life work. But it is a problem for all black and white alike. If things were different there would be an easy solution. The American people are fair and have a lively conscience so that the speaker feels no fear but, that the question will be ultimately settled and settled to the advantage of all concerned. We hear the cry of injustice. No matter what the Negro's character and intelligence may be, he is what he is so far as his citizenship goes by virtue of the 13th, 14th and 15th amendment of the constitution. He is a citizen of the United States and of the State in which he dwells. Therefore the Negro has social rights, else the constitution of the United States is not worth the paper it is printed on. The question of social equality is a noted superstition. There is no such thing as social equality, unless both sides agree to it. The Negro when educated becomes a consumer; hence he helps to create a market and therefore is a desirable factor in the nation. He moreover has an inalienable right to an education as a citizen of the United States. He has a right to work. Your very wealth and industrial success has been largely due to the working of the Negro in the cotton fields for the last 200 years. The Negro has become an integral part of the nation and its progress. The south wants the Negroes and is not desirous of getting rid of them. During the slave days, the Negro was as a rule the only mechanic. It was he who builded and made things. When did he learn this if he was such a savage so foolish and childish? If the Negro is left alone and given as fair a chance as the white man is given, he will work out his own solution in the south. There are 10,000,000 of them. They show patience, aptitude and endurance. The early education that was given them was the best for that time. Since the war there have been 30,000 teachers educated and sent among them. Keep the college doors open. The race prejudice is here in the north as well as in the south. The south has only known the Negro as a slave. Give him a chance and he will make the south know him otherwise. It will take time and we will have to have faith in the justice and good sense of the American people.

The question was further discussed by A. W. Williams, John M. Dodson, L. Harrison Mettler, B. McPherson Linnell, Rachel H. Carr and Rosalia M. Ladova.

L. Harrison Mettler,
Official Reporter.

The Chicago Medical Society met April 1, 1903, with President Wm. A. Evans, in the chair.

F. E. Wynekoop presented a paper on the **Bacteriology of Influenza.** The author demonstrated his methods and the importance of his mode of dealing with influenza. Among other matters showing the ubiquity of the germ and its frequently puzzling character, he cited a series of more than two thousand examinations made for physicians who suspected their patients of being afflicted with diphtheria. Of the two thousand cases, five hundred were demonstrated, by the finding of the germ, to be influenza, and appropriate treatment was then instituted.

Nervous Complications of Influenza.

Charles L. Mix, in discussing this phase of the subject, stated that the bulk of the work which has been done upon the nervous manifestations of influenza was accomplished in the whirlwind of investigation which followed the pandemic in 1889 and 1890. The nervous forms of influenza in general may be divided into those which are associated with gastro-intestinal disturbances, those which are associated with respiratory disturbances, and those which are associated with nervous disturbances. To these he would add the mixed forms. Almost no case of influenza is without nervous symptoms. During the prodromata, headache, backache, pains in the extremities, possibly often general pains, insomnia, prostration, are all nervous in origin. During the fastigium invasion of the meninges may occur. There may be various inflammatory forms of cerebro-spinal disease. During convalescence toxic manifestations of the disease once more appear, chiefly the neuritides and neuralgias, not inflammations in the ordinary sense of the word, neuritis here being to some extent a misnomer, but a degeneration, a counterpart of that which follows the toxic influence in arsenical, lead, or alcoholic poisoning.

The speaker considered next the effect of the germs upon the central nervous system.

Diphtheria is associated with as many nervous manifestations and disturbances as influenza. The diphtheritic effect is primarily a toxemia. In addition to being a toxemic disease, influenza is a bacteriemic disease. There is an important difference between diphtheria and influenza, in that diphtheria is chiefly a toxemic disease, while influenza is both a toxemic and bacteriemic disease, consequently the number of complications which may follow after influenza are very much greater than those which follow after diphtheria. For instance, after diphtheria meningitis is practically an impossibility, but it is not at all uncommon after influenza. The effects, then, of the influenza bacillus may be summed up in two words, the toxemic effect and the bacteriemic effect. There should be added still another characteristic of the influenza bacillus, and that is its pyogenic nature. Cases of abscess of the cerebellum have been reported in which neither streptococci nor staphylococci could be found, but merely pure cultures of the influenza bacillus. The peripheral neuritides and psychoses were dwelt upon at length.

The Pulmonary Aspect and Complications of Influenza.

In a paper on this subject, Frank S. Johnson stated that the lungs and air passages more than any other single organ are implicated in attacks of this disease. The commonest, also the mildest, form of involvement is catarrhal inflammation, beginning usually as coryza and traveling downward to the trachea and bronchi, involving the pharynx and larynx in varying degrees. The accompanying cough is usually harsh and unproductive; or the sputum is tenacious. More rarely it is abundant and thin; still more rarely it is blood tinged. It may be purulent early in the attack. The catarrhal symptoms are concomitant with the acute general symptoms of initial fever and generalized pain. Physical examination indicates most varied conditions, ranging from bronchitis with infrequent sibilant and coarse bubbling or snapping rales to softer, large and fine rumble, and with the extension of the inflammation into the finer tubes there are heard subcrepitant rales. On percussion areas of diminished resonance, shifting and changing from day to day, are indications of bronchial stenosis or occlusion, or indicate areas of local edema. Those changes may be considered the introductory steps to pneumonia, catarrhal pneumonia, the typical form of pneumonia in influenza, as indicated by fixed areas of dullness and characteristic auscultatory signs. The catarrhal pneumonia may be purely grippal, but is usually the result of mixed grippal and streptoccocal infection. Lobar pneumonia is a comparatively infrequent complication of influenza, and is the result of a superadded diplococcal infection. The influenza prepares the way for the secondary infection. The primary influenzal infection exerts a noticeable influence upon the course of the pneumonia. The symptoms of onset are masked by already existing grippal disturbances. The initial chill of lobar pneumonia may be sufficiently severe to distinguish it from the recurring chills so often observed in influenza. Temperature fluctuation in the course of the complication is more varied. The febrile stage in both varieties usually persists longer than in complicated cases. In croupous pneumonia the crisis may be delayed several days beyond the usual period, or may be marked by temperature phenomena. Resolution also is slower and more often imperfect. Abscess and gangrene are more common. Or the case may drag on to a chronic state, with persistent cough and incomplete restitution of the lung.

Herein lies another danger, namely, tubercular infection, or not infrequently the lighting up of old tubercular foci to acute activity.

Another and very logical complication is pleurisy occurring with pneumonia, and bearing close bacteriological relation to the variety of the lung infection within, viz., Pfeiffer bacillus, streptococcus, staphylococcus and diplococcus. The course is much more serious than is usual with the pleurisies of pneumonia. Absorption is less certain, and transition to the purulent type much more common.

Pleural inflammation does not, however, occur solely as a complication of pneumonia, but may be a primary complicating element, appearing early in the case before other serious chest symptoms are manifest.

One prominent fact is forced upon our observation in nearly all cases of pulmonary complication; it is that the inflammation in its local manifestations is more intractable and prolonged than similar cases not complicating influenza. It is much more prone to end in destruction of tissue, or in suppuration, or to pass into a chronic state, or become the seat of tubercular infection.

The prostrating and enervating effect of influenza is shown in these dangers that follow in its wake. It is a disease to be feared as much—or more—in its sequelae as in its activity.

The Diagnosis of Influenza.

B. W. Sippy read a paper on this subject. He said the disease manifestations produced by infection by the influenza bacillus are notoriously variable, hence great care must be exercised in differentiating the disease from an almost countless number of affections that may simulate it. The positive diagnosis of influenza is based upon the demonstration of the influenzal organism. Accurate knowledge of the clinical manifestations of the disease, however, will enable one to make the diagnosis of influenza with a fair degree of certainty, when certain types of the disease are well developed, and especially during the course of an epidemic. A typical influenza begins suddenly with a chill, followed by high fever, lasting from one to several days, associated with loss of appetite, severe headache, aching pains in the back and extremities, together with a disproportionate prostration. In addition to these fairly characteristic general symptoms, largely toxic in nature, manifestations of a more local character are usually present, giving rise to the various types of the disease: The respiratory, the nervous, the gastro-intestinal and the febrile.

The respiratory form is the most common. A coryza or a catarrhal condition of the respiratory tract is not necessary to the diagnosis of influenza. It is estimated that in one-fourth of all cases, symptoms referable to the respiratory tract are entirely absent. The bronchitis of influenza has really no distinguishing features in the majority of cases. Certain minor points are of some value in diagnosis. Bronchitis due to infection by the influenza bacillus is usually diffuse. It is, however, more likely to remain localized in one lobe or part of the bronchial distribution than bronchitis due to other infective agents. The cough may be paroxysmal; the dyspnea is often great, and out of proportion to the physical findings in the lungs. Pfeiffer describes thick, yellowish-green, coin-like balls of sputum as a characteristic peculiarity of influenza.

Influenzal pneumonia may begin with a chill at the onset of an attack of influenza, but it usually develops subsequently during the course of an influenzal bronchitis. True influenzal pneumonia is catarrhal. Croupous influenzal pneumonia is probably always due to secondary infection with organisms like the diplococcus and others that commonly produce a croupous infiltration of the lung. Both the catarrhal and the croupous infiltration are likely to invade different parts of both lungs, and to run the course of an atypical pneumonia. Both forms are usually readily distinguished from the genuine croupous pneumonia, but cannot be differentiated from atypical pneumonia from other mixed infections, except by bacteriology.

Croupous influenzal pneumonia is probably more common than is usually supposed. It cannot be diagnosed without the presence of rusty sputum.

Dr. Sippy drew the following conclusions:

1. The positive diagnosis of influenza is based upon the demonstration of the influenza bacillus in the various secretions and exudates in a given case.

2. The most important aid to the diagnosis of influenza, aside from the bacteriological proof, is the presence of an epidemic of the disease. It is probable that sporadic influenzal infection is not rare.

3. Certain general and local manifestations of the disease have a minor value in diagnosis. Their importance, however, should not be underrated, since these general and local peculiarities cause us to suspect that influenza is present, and thus lead the way to positive bacteriological proof.

The Treatment of Influenza.

Robert H. Babcock presented this phase of the subject. He said that inasmuch as there is no specific remedy for influenza, physicians are limited to a preventive and symptomatic treatment. The former should include such measures as are calculated to protect friends and attendants from infection as well as those that will guard the patient from complications. To achieve the former end, the patient should be isolated as far as circumstances will permit. If possible, he is to be placed in a room disconnected from those inhabited by the family. Doors leading to the sick-chamber are to be kept closed, and the atmosphere must be kept well ventilated by having the windows open more or less widely day and night. Protection against draughts and chilling may be accomplished by suitable screens and artificial heat. The sputa and secretions from the throat should be promptly destroyed by a solution of corrosive sublimate of the strength of 1-2000, or some other equally efficient antiseptic. In even apparently mild cases of influenza complications may readily be developed when conditions are adverse or proper treatment is neglected, so that every influenza patient, no matter how mild his attack, should be emphatically warned of the danger of keeping up and should be ordered to bed. The influenza infection is peculiarly depressing to the heart and consequently serious failure of heart power is a positive danger if the sufferer persists in his determination to attend to his usual vocation. The prevention of complications will depend largely upon due attention being paid to the local treatment of the mucous membrane of the naso-pharynx by sprays and inhalations. Under all circumstances the sufferer should be kept in the house, even if he cannot be prevailed upon to take to his bed. The throat is the atrium of infection and therefore in all cases, whether catarrhal manifestations are marked or not, the throat and also the nasal passages ought to receive careful attention by means of sprays and inhalations. Such treatment is not only preventive of complications, but in many cases should form the first object of symptomatic treatment. For the bronchitis some one of the nebulizers on the market will be found serviceable in carrying appropriate antiseptics and expectorants into the trachea and bronchi. If internal expectorant remedies are given, they should be such as will tend to loosen secretions and facilitate expectoration. Inhalations of steam impregnated with an antiseptic and also nebulizations of some oil, as albolene, containing menthol or creosote, often facilitate expectoration and promote expulsion of the secretions with their bacilli. Aside from the strictly catarrhal manifestations, cough is in many cases a symptom calling for special attention. If this is due to irritation of the naso-pharynx or larynx, nothing is more effective than local medication by sprays and inhalations. Menthol in a five per cent. solution in albolene is often soothing, whereas cocaine and morphine seem to the speaker objectionable for several reasons. If the cough is due to bronchial irritation, then nothing is so serviceable as heroin, in doses of one-twelfth or one-sixth, and codeine, in doses of half a grain to an adult. For the purpose of mitigating cough, promoting expectoration and general comfort in cases of bronchitis, the essayist recommended the Priesnitz cross bandage on the chest as it is used in Germany. Pain is so commonly a marked feature of influenza as to demand relief. Phenacetine in combination with quinine has been found so efficient for this purpose as to have become an almost standard remedy. For the often intense pain in the forehead and cheeks cloths wrung out of very hot water often afford great comfort, or a hot water bottle may be laid on the parts over a damp cloth. Fever rarely requires

special treatment, both because it is not sufficiently high and is not so protracted as to prove a serious matter in itself. The gastro-intestinal tract should be given much attention. In the beginning of an influenzal attack it is well to clean out the bowels by the administration of a mercurial and saline, but one should not produce too active catharsis, and he should not repeat cathartics too often. Half a grain or possibly a grain of calomel in divided doses in the evening, followed next morning by a small glass of Rubinat, concentrated Pluto, or other cathartic water, is all that is necessary, after which a daily enema usually suffices for several days, when the previous cathartic may be repeated, if deemed advisable. In the rare gastro-intestinal type, with vomiting and purging, efforts must be made to control, not promote, the evacuations. Then are required large doses of bismuth, oxalata of cerium, tannalbin, and other unirritating astringents, and even morphine hypodermatically or opium by mouth or rectum. The diet should be such as is generally recognized as appropriate to an acute infectious disorder, that is, a light liquid one, of milk, koumyss, matzoon, malted milk, soups, beef tea, made not from the extract, but from Mosquera's beef jelly, meat juice, raw eggs, etc. Alcoholic stimulants in large doses are depressing, but in small amounts may be useful in cases exhibiting marked cardiac depression and may be advantageously combined with the milk and raw eggs. Should other stimulants and tonics be required, there is nothing better than strychnia and nux vomica.

In his closing remarks Dr. Babcock dwelt upon the management of influenzal cases during convalescence. He urged the importance of a thorough disinfection of the house after the inmates have recovered by means of formalin vapors.

W. C. Sanford mentioned a case of lobar pneumonia which came under his observation quite recently, in which, after the crisis, symptoms of influenza developed, and on making a bacteriological examination, the bacillus of influenza was found. He recalled a number of cases of severe bronchitis which were followed by typical influenza. He believes that strychnine, if used early and thoroughly, will obviate much of the nervous and cardiac depression that so frequently occurs in these cases.

B. W. Sippy referred to the work done by Lord, of Boston. Of 100 cases, Lord found 60 in which influenza bacilli were found in large numbers. In about one-half of the 60 cases the influenzal organisms were found in nearly pure cultures. Lord concludes, as the result of his bacteriological investigations, that influenzal bronchitis, apart from epidemic influenza, is rather common, and believes that many cases of so-called chronic bronchitis are of influenzal origin.

Bradycardia is not infrequently present in influenza, varying with the epidemic. Bradycardia may be relative or absolute. In nearly fifty per cent of the cases reported by a German author, bradycardia was an absolute condition. Bradycardia is supposed to be due to the direct effects of the toxins of the disease upon the vagus center.

The following new members have been admitted. Addresses are always in Chicago unless otherwise stated.

Bates, Morley D., 34 Washington st.
Boot, G. W., 1945 Maple ave., Evanston.
Brandt, F. H., 70 State st.
Butts, George B., 59th and State sts.
Doederlein, Theodore J., 356 Webster ave.
Falker, W. H., 552 E. 63d st.
Fuller, Spencer S., Riverside.
Fyfe, Richard, 743 W. Adams st.
Gregg, H. L., 2102 W. Madison st.
Harcourt, L. A., Eureka, Nevada.
Horwitz, Alexander P., 4712 S. Ashland ave.
Le Count, E. R., 398 S. Marshfield ave.
Loew, Alexander, 1000 State st.
Lovewell, C. Hubert, 5500 Halsted st.
MacKellar, Orville W., 332 E. 63d st.
McCullough, John R., 35 Park ave.
Payne, Douglas A., 92 State st.
Peterson, Wm. A., 100 State st.
Ransmeier, Robert E., 2876 Archer ave.
Richter, Arthur J., 4650 Grand Blvd.
Shaffer, Vesper, 1110 N. Western ave.
Steurnagel, G., 941 31st st.
Strueh, Carl, 464 Belden ave.
Von Colditz, G. Thompson, 269 Lake View ave.
Von Rehm, Edmund, 467 W. Chicago ave.
Weir, Charles F., 63d and Steward ave.
Wheeler, Roy MacW., 128 W. 67th st.
Winans, Edward C., 904-103 State st.
Windmueller, E., Woodstock.
Worthington, M. H., 763 Marshall Field Bldg.
Wynekoop, F. E., 411 City Hall.

The Sangamon County Medical Society held its regular monthly meeting in the Supervisor's Room at the Court House, April 13, 1903, at 8:30 o'clock with A. L. Brittin, President, in the chair and twelve members present. The minutes of the March meeting were read and approved. The applications of J. R. Burkhart and Hada M. Burkhart were held over one month for further investigation. The application of C. R. Spicer was favorably balloted upon and he was declared elected to membership in our Society. The application of B. F. Redshaw of Curran was read and referred to the council.

The president was selected as delegate to the House of Delegates and the vice president serving as alternate.

Bills of Edw. F. Hartman Co., $1.50; Phillips Bros., $1.50 and Secretary-Treasurer, $2.00 were read and ordered paid.

O. B. Babcock read a paper on **Billiousness**, although it was not intended to be a scientific paper, the members were highly entertained.

In the place of discussion, Fred S. O'Hara responded with some of his wit and humor.

G. F. Steriker thought the use of Blue Mass and Black Draft were the most efficacious drugs to be used.

R. D. Berry said the liver was the largest and most abused organ in the body; also the most vascular and would perform its duties if properly treated. The improper living of the better class of people, bring about these troubles; they are not good eliminators as are the working classes.

The following application was adopted:

Application for Membership

in

The Sangamon County Medical Society

Sangamon County Branch of the
Illinois State Medical Society.

.....190..

I hereby apply for membership in the Sangamon County Medical Society, agreeing to support its constitution and by-laws and the code of ethics of the American Medical Association.

(Signed) .....

P. O. Address .....

Where Graduated .....Date.....

Other Degrees .....

Hospital or College Appointments .....

.....

Member of other societies .....

Date of license to practice in Illinois .....

Date of registration in Sangamon County Clerk's office .....

Name of member of this society for reference .....

N. B.—The annual dues of three dollars (to include also membership in and dues to the Illinois State Medical Society and its monthly journal) must accompany this application.

The Peoria City Medical Society met Tuesday evening, April 7, 1903, at the National Hotel, and was called to order by the 1st Vice President, L. A. McFadden.

Those present were McFadden, Will, Roberts, Sutton, Jeanette Wallace, Hayes, Whitten, Green, Roskoten, Gunn, Hensley, Brobst, E. L. Davis, S. M. Miller, and Collins.

J. W. Hensley reported for the committee on banquet, that the banquet would be held April 21st and each member would receive due notice.

The Secretary read a number of letters received from the members of the Legislature from this district. With one exception, **they said they would vote for the bill presented by the Committee on Legislature of the Illinois State Medical Society.**

The amendment to the constitution introduced February 17th, was brought up for action, but on motion of H. H. Whitten its consideration was deferred until the next regular meeting.

An excellent paper was presented by G. N. Kreider of Springfield, Ill., Editor of the Illinois Medical Journal, on **Senile Gangrene.** His conclusions were:

1st: Patients subject to senile gangrene are usually intense sufferers and deserve our sympathy and best efforts to relieve them.

2d: Morphine should be used sparingly, if at all.

3d: Massage carefully applied should be used early in suitable cases.

4th: The urine, heart, blood vessels and nervous system should be carefully examined to determine the cause of the disease and the best means of giving relief.

5th: Age is no bar to operative interference, providing there is no contra-indication in the heart, kidneys and nervous system.

6th: Usually the amputation should not be made in close proximity to the gangrenous spot.

7th: Amputation far distant offers relief from the pain and horrible stench and often results in permanent cure.

8th: Diabetes is not a contra-indication for operation.

9th: Nephritis or valvular heart disease is usually a contra-indication for operation.

The paper was discussed by Roberts, Sutton, Roskoten, Hensley, Gunn, S. M. Miller, McFadden and Will.

J. C. Roberts made a motion that a vote of thanks be presented to Dr. Kreider for his able and interesting paper. Carried.

E. M. Sutton presented a case of **enlargement of the thyroid gland.**

Adjourned.

C. U. Collins,
Official Reporter.

The Adams County Medical Society held its regular monthly and annual meeting April 13, 1903, at the Conservatory of Music. President Gilliland called the meeting to order.

Members present: L. B. Ashton, W. D. Bates, A. H. Byers, C. D. Center, R. J. Christie, Jr., W. E. Gilliland, J. M. Grimes, H. Hart, T. B. Knox, E. B. Montgomery, H. J. Nichols, Jos. Robbins, J. B. Shawgo, Wm. Sigsbee, Sarah Vasen, O. F. Wellenreiter, W. W. Williams, Ernst Zimmerman and J. A. Koch.

The Secretary's annual report: Eleven meetings were held since the last annual meeting. Average attendance was 19. Twenty nine propositions and applications were for membership. Twenty nine were elected. There were eleven regular and four voluntary papers and clinical reports. Dues received and paid to Treasurer, $147.00. Authorized expense $52.88. Balance $94.12.

The Treasurer's annual report: Balance on hand May $48.54. Received from Secretary during past year $147.00. Total $195.54. Paid out on vouchers, $52.88. Balance on hand, $142.66.

The following officers were elected for the ensuing year: President, W. W. Williams, Quincy; Vice Presidents, A. D. Bates, Camp Point, Henry Hart, Quincy; Secretary, John A. Koch, Quincy, (Re-elected); Treasurer, L. H. A. Nickerson, Quincy, (Re-elected); Censors, Jos. Robbins, Quincy; C. D. Center, Quincy; R. J. Christie, Jr., Quincy; Delegate for two years, E. B. Montgomery, Quincy; Alternate, W. E. Gilliland, Coatsburg.

Retiring President Gilliland appointed Jos. Robbins and J. M. Grimes to escort President-Elect Williams to the chair. President Williams in a few appropriate remarks thanked the members for the honor extended him and asked hearty co-operation in the society work.

Delegate Montgomery was instructed to vote for the assessment plan at the State Society meeting.

The Secretary was instructed to send to the Treasurer of the Illinois Medical Society $2.00 for each active member in this Society, as dues for the members in the State Society.

Adjournment.

John A. Koch,
Official Reporter,
Secretary.

The Macoupin County Medical Society met April 14, 1903, Carlinville, in the Masonic Reading room with the following members present: E. A. Bleuler, J. S. Collins, L. H. Corr, C. J. C. Fischer, J. M. Barcus, J. P. and J. Palmer Matthews of Carlinville and S. A. Huffman of Chesterfield.

The Treasurer's report showed balance of $3.30 on hand.

The Board of Censors reported the Essayists Wash and Nifong to continue their papers till next meeting. E. A. Bleuler was added as Essayist. Carlinville is the next place of meeting on the fourth Tuesday in October.

President for ensuing year, L. H. Corr; Vice President, N. A. Crouch; Secretary-Treasurer, J. Palmer Matthews.

The committee on the death of C. T. Dripps of Staunton reported:

Resolved, A page be set apart in the minutes of our Society in memory of our deceased brother and a copy of the resolution be sent for publication in the County papers.

Signed, J. S. Collins, J. P. and J. Palmer Matthews.

A similar report was made on the death of our honored and respected member, John Ash, of Brighton.

A motion was adopted: That the action of the State Medical Society and the American Medical Association in reference to National affiliation is endorsed and if reorganization is effected we will change our constitution and by-laws to comply with its provisions.

Drs. Bleuler and Collins gave a description of their trip to Europe, and their studies at the Vienna Kraukenhaus.

J. Palmer Matthews,
Official Reporter.

The Physician's Protective Assn. of Jackson County met at Dr. Essick's office, Murphysboro. Called to order by President McAnally.

Dr. Mitchell's amendment to the preamble of the Constitution, presented at last meeting, was first considered. It read as follows: "Motion and second that the constitution and by-laws of this Association be so amended that the name of this Association shall be called the "Jackson County Medical Association," instead of the "Physicians' Protective Association of Jackson Co. Ill." Carried.

Dr. Silvey's amendment was as follows: Art. 5, Sec. 1, to read: Each and every member shall pay in advance $3.00 annual dues for county and state societies. This, although universally favored by the members present, was tabled till the next meeting, awaiting the action of the State and American Medical Associations.

The secretary was instructed to telegraph the chairman of the Judiciary Committee urging him to use his influence to get the house to act on the new Medical Practice Act as did the Senate.

J. T. McAnally and H. C. Mitchell were elected as our delegates to the State meeting.

Program consisted of a report of an interesting case of **Gall Bladder Colic with Operation** by W. C. Hill. Discussion by Drs. Mitchell, Essick, McAnally, Knauer, Silvey and Hill.

Next meeting May 21st at Carbondale.

W. C. Hill, Official Reporter.

The Fayette County Medical Society held a very interesting meeting April the 8th. President Moses Haynes made an address on **The Benefit to be Derived from the County Organization** in which he advanced many good reasons why all reputable physicians in the County regardless of schools of practice should be thoroughly organized.

E. W. Brooks read a very interesting paper on **How to Make the Practice of Medicine Pay** which was discussed by all the members present.

L. L. Morey read an instructive paper on **The Urticarias: Their Causes and Treatment** which was discussed by Shelton, Entriken, Brooks and Smith. The secretary was instructed to write the Senator and representatives from this district requesting that they support the bill before the Legislature creating a Board of Medical Examiners.

The following officers were elected for the ensuing year: President, Moses Haynes of Bingham; Vice President, L. L. Morey, of Vandalia; Secretary, A. L. T. Williams, of Vandalia, and Treasurer, F. M. Entriken, of Vandalia. L. L. Morey was selected delegate to the State Society and E. W. Brooks of St. Elmo, alternate.

The next meeting will be July the 8th.

A. L. T. Williams,
Official Reporter.

The Washington County Medical Association held their second regular meeting for the year in the Court House in Nashville, April 9th. T. L. Granay, the president being absent the meeting was called to order by R. E. Vernor, Vice President. Minutes of the preceding meeting were read, corrected and approved. The Secretary read a letter from T. L. Grany explaining his absence. The name of R. A. Goodner of Nashville, R. B. Jack of Elkhorn and J. L. White of Richview was presented and unanimously elected to become members of The Washington County Medical Association. The Secretary read the action of the executive committee called together by Dr. Harris on Jan. 9, 1903, reported on page 559 of The Illinois Medical Journal, which was discussed, but final action was deferred until the next regular meeting. David Neer of Beacoup

read a very interesting and instructive paper on the physician prescribing patent and proprietary medicines, which was very much appreciated by those present. Dr. Neer was requested by the Association to send the paper to the Editor of the Illinois Medical Journal, which he promised to do after he made some corrections.

J. J. Trout,
Official Reporter.

The Christian County Medical Society met in regular session Thursday afternoon, April 16, at the City Hall in Taylorville. President J. N. Nelms in the chair with twelve members present.

The minutes of the last meeting were read and approved.

F. E. North gave a report of case of **Pneumonia following measles** which was very interesting.

M. W. Staples reported a case of **Gall Stones** with the diagnosis not correctly made till the patient was on the operating table, with some very good suggestions.

Guy L. Armstrong's application for membership was presented and by unanimous vote he became a member of the Society.

Major W. T. Vanderveer having stated that Taylorville ought to have a Hospital and that he would like to do something very substantial in that way, a committee of three, composed of Drs. Johns, North and Hill were appointed to wait upon the Major and see what he would do, and report at the July meeting.

W. T. Brides,
Official Reporter.

The Southwestern Section Medical Society of Chicago held the thirtieth regular meeting at the Grace Cafe, Tuesday evening, April 14th. Society was called to order by President Eggert, after the usual lunch, and introduced the speaker of the evening, B. W. Sippy, who gave a very instructive and interesting talk on the subject **Uremia**, going into the history, the etiology, symptoms, diagnosis, differential diagnosis and treatment.

The regular order of business was then gone through.

The program committee announced for the May meeting a paper, on **Lymph Glands of the Neck** by J. P. Webster and Dr. Simpson.

A motion by Dr. Weir, seconded by Dr. McGonagle, that the Society extend a vote of thanks to Dr. Sippy was unanimously carried. The attendance of the evening was twenty-five.

Several names were presented for membership. Society adjourned.

Thos. C. McGonagle, Official Reporter.

The Cass County Medical Society at our annual meeting at Virginia, April 13, 1903, the various offices were filled by the following:

Geo. Biey of Beardstown, president; M. J. Palmer, Beardstown, 1st Vice President; D. A. Gaily, Ashland, 2d Vice President; J. A. McGee, Secretary; J. G. Franken, Chandlerville, Treasurer.

All old committees were continued as in the preceding year. Our Society is in a flourishing condition, although owing to bad roads, a part of our members having to drive some distance we have been unable to hold regular meetings. Considerable interest is shown, and we will, I hope, be able to report some papers.

J. M. McGee,
Official Reporter.

The North Shore Medical Society held its regular monthly meeting at the North Shore Lunch Room, 1880 Evanston ave., Tuesday evening, April 7, 1903. Maximilian Herzog was in the chair. In the absence of the Secretary Ross C. Whitman was elected temporary Secretary. Dr. Herzog read a paper on the **Histo-Pathology and Pathological Chemistry of Diabetes.** The paper was discussed by Drs. Patton, Healy, Chapman, Green and Herzog.

J. P. Houston read a paper on **Some Observations on the Gastro-Intestinal Diseases of Children.** Discussion by Drs. Garvy, Reed, Green and Houston.

The Committee on Constitution and By-Laws reported, and with the addition of a few amendments and substitutions the Constitution of the North Shore Branch of the Chicago Medical Society, as reported by the committee, was adopted. J. H. Hoelscher was elected Councilor from this district. J. P. Houston was elected Committeeman for the south part of this district. It was voted that the selection of the meeting place be left to the Executive Committee. On motion the meeting adjourned.

George Edmund Baxter,
Official Reporter.

The McLean County Medical Society met in its rooms in the Griesheim Bldg., in Bloomington, April 2, 1903.

J. Whitfield Smith gave a synopsis of his paper on **Trachoma,** which he will read before the State Medical Society.

J. B. Taylor gave a talk on **Some Advances in Eye and Ear Treatment** with a demonstration of a number of the newer devices which aid in this special work. Conspicuous among these was the Akouphone, which is used in the treatment both of the congenitally deaf and the catarrhal deaf.

The plan of affiliating the County Society with the State Society as recommended by the later and the A. M. A. was carried by a big majority. Officers elected for the ensuing year are: President, F. C. Vandervort; Vice President, A. L. Fox; Secretary-Treasurer, A. F. Kaeser; Board of Censors, C. M. Noble, C. E. Chapin, J. H. Finelow; Delegates to the State Society, W. R. Shinn, J. W. Smith.

A. F. Kaeser,
Official Reporter.

The Pulaski County Medical Society held its annual meeting Tuesday, April 7, 1903, at Mound City. The following officers were elected: J. F.

Hargan, of Mound City, President; W. C. Rife, of Villa Ridge, Vice President; A. W. Farr, of Grand Chain, Secretary and Treasurer; M. L. Winsted, of Wetaug was elected delegate to the State Society.

All the physicians in the county outside of Mound City were present at this meeting and several able papers were read and discussed.

A. W. Farr,
Official Reporter.

The Hamilton County Medical Society, was organized on Wednesday 15th inst., with a membership of fifteen out of the total of twenty-six in the County. The officers are as follows: H. E. Hale, president, Belle Prairie; W. F. Hall, first vice-president, McLeansboro; M. C. Dale, second vice-president, McLeansboro; C. N. Lyon, secretary, McLeansboro.

The Cumberland County Medical Society was organized on the 16th, at Greenup, and the following were elected officers: President, L. A. Fisher, Greenup; Secretary and Treasurer, Dr. Rhoads, Toledo.

PROGRAM, TITLES AND ABSTRACTS OF PAPERS FOR THE 53d ANNUAL MEETING OF THE ILLINOIS STATE MEDICAL SOCIETY.

The next meeting of the Illinois Medical Society will be held in Tremont Temple, Dearborn and Lake sts., Chicago, April 29 and 30, and May 1 and 2.

A Committe on Clinics has been appointed, and these gentlemen have arranged a schedule beginning on April 22. Free admission is offered to one or more clinics during every hour of every day, except Sunday. These clinics will cover every branch of medicine. In addition, a full program of clinics has been arranged for each day of the meeting. It has been agreed by the clinicians of Chicago that no clinics will be given during the hours when the Society is in session. During each hour set aside for clinics, the visitors can choose from several opportunities.

The programs of Section work are fully up to standard. To hear and discuss the papers in the Sections will certainly be worth attendance on the meeting.

The program places the work of the Business Section, known as the House of Delegates, in the afternoon, and all members of the Society are invited to attend the meetings of this body. Participation in its deliberations is limited to the duly accredited delegates.

The preliminary meeting which has usually preceded the regular meeting, will not take place this year. This meeting grew out of the inadequacy of the old method of organization to do any business in a deliberative fashion. It is expected that the House of Delegates will supply this deficiency.

It will be noticed that the general session on Wednesday morning is nominal. This is done to fulfill the technical requirements. Really it is proposed to give over the forenoons to Section work. In the afternoon the members can select a program of clinics, visit the House of Delegates, chat with friends in the parlors, visit the scientific exhibit, or renew acquaintance with our friends with things to show, explain, demonstrate, or sell.

The open parlor we hope will prove an acceptable innovation. The scientific exhibit is also an innovation; we hope that this will prove an attraction. Members who have specimens with which they intend to illustrate papers, are asked to leave them in the exhibit except when in use in connection with their papers. Other members having specimens of interest, are asked to place them in the exhibit.

The commercial exhibits are on the 5th floor. No elevators go beyond this floor. Our members can always spend some portion of their time to advantage, in these exhibits.

At the evening general session, we propose to have some addresses by prominent men of the city, after which we will listen to the President's address, and attend to such other business as belongs to the mass meeting. Placing this meeting in the evening is an innovation that we think will appeal to those who have witnessed the usual struggling character of opening sessions.

Thursday evening is left open so that those in attendance can do as they please or go where they please. The lady physicians of Chicago have planned a reception for the visiting lady physicians, on this evening. Other entertainments, somewhat less formal, will be in order.

The Friday evening program has not yet been decided on. We feel quite certain that there will be no formal banquet. There will probably be some stage entertainment followed by a buffet lunch—probably "smoker" would more nearly describe what we now have in mind than would any other term.

The registration office, hotel and boarding house directory, and post office will be at the old hotel desk in the lobby.

It will be remembered that the building is the old Tremont Hotel. The amphitheatres and clinic rooms are those that have been built

in by Northwestern University for its Dental School. The Clinic Room will seat approximately twelve hundred people. The three amphitheatres are on the same floor (the sixth). They will seat from two hundred to four hundred people each.

The building is very centrally located. Every elevated road passes by the door, and has a station just one block away. Every cable system reaches within two blocks. The out-of-town visitors can come on the cars, street or elevated, right to the hall, and find there a list of hotels and boarding houses. The Sherman House is located just across the street. In case he wishes to get farther away, the suburban hotels such as the Lexington, are reached by adjacent car lines.

On Sunday, special trains will leave Chicago for the New Orleans meeting. These trains will provide some time for visiting New Orleans and the neighboring towns, by those who wish. Those who wish to attend such meetings as that of the American College Association, will be in time for them.

The regular trains leaving here up to Sunday evening, arrive in New Orleans in time for the meeting.

The fare will be one and one-third. Members are reminded that in purchasing tickets, they must take a certificate of purchase from the local agent. This must be indorsed by the railroad agent in the registration office, at the meeting.

PROVISIONAL PROGRAM.

Place of Meeting, Tremont Temple, Lake and Dearborn Sts., Chicago. Time: April 29 and 30, and May 1 and 2.

Wednesday, April 29—First Day.

8:00 A. M. Registration office, Lobby, first floor, open.

9:30 A. M. General Session called to order in Clinic Room, 6th floor.

9:45 A. M. Adjournment of General Session until 8:00 P. M. Same hall.

10:00 A. M. Section I. called to order, Amphitheatre, 6th floor.

10:00 A. M. Section II. called to order, Amphitheatre 2.

10:00 A. M. Section III. called to order, Amphitheatre 3.

10:00 A. M. Parlors open, 2d floor.

10:00 A. M. Exhibits open, 5th floor.

10:00 A. M. Scientific exhibit open, 5th floor.

1:00 P. M. Adjournment of all Sections.

2:30 P. M. Registration in Lobby.

2:30 P. M. House of Delegates, Clinic Room, 6th floor.

2:30. P. M. Clinics in various Hospitals and Colleges.

2:30 P. M. Parlors open.

Scientific Exhibit open.

Exhibits open.

8:00 P. M. General Session.

Welcoming Speeches.

Address of President Harris.

Thursday, April 30—Second Day.

8:00 A. M. Registration in Lobby.

All Exhibits open.

Parlors open.

9:00 A. M. Section I, Regular order, place noted above.

9:00 A. M. Section II, Regular order, place noted above.

9:00 A. M. Section III, Regular order, place noted above. Completion of work of this section.

1:00 P. M. Adjournment of Sections I, II and III.

2:30 P. M. House of Delegates, Clinic Room.

2:30 P. M. Clinics all over town.

2:30 P. M. Parlors open.

Exhibits open.

Scientific Exhibit open.

8:00 P. M. No work.

Friday, May 1—Third Day.

8:00 A. M. Registration Office open.

9:30 A. M. Parlors open.

Scientific Exhibit open.

Exhibits open.

10:00 A. M. Section I. Regular order.

10:00 A. M. Section II. Regular order.

1:00 P. M. Adjournment.

2:30 P. M. House of Delegates, Clinic Room.

2:30 P. M. Clinics all over town.

2:30 P. M. Parlors open.

Scientific Exhibit open.

Exhibits open.

8:00 P. M. Entertainment in the Clinic Room.

Saturday, May 2—Fourth Day.

8:00 A. M. Registration Office open.

9:30 A. M. Parlors open.

Exhibits open.

Scientific Exhibit open.

10:00 A. M. Section I. Regular order.

10:00 A. M. Section II. Regular order.

1:00 P. M. Adjournment of Sections.

2:30 P. M. Clinics all over town.

2:30 P. M. Parlors open.

Scientific Exhibit open.

Exhibits open.

Adjournment.

Sunday, May 3 and Monday, May 4, leave for New Orleans.

SECTION ONE.

1. **"The Dangers of Exclusive Milk Diet in Nephritis."** A. C. Crofton, 100 State st.

Abstract.

The popular prejudice in favor of an exclusive milk diet in nephritis and the fundamental fallacies of this prejudice; the three indications for dietetic treatment of nephritis: (1) Protection of the secreting epithelium of the kidney; (2) protection of the cardio-vascular apparatus, (3) protection of the general nutrition of the patient. Reasons why an exclusive milk diet meets none of these requirements. The best substitute for an exclusive milk diet, as deducted from modern investigations into the causes of nephritis and the excretion of urinary solids in inflammatory diseases of the kidneys.

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2. **"The Breast vs. The Bottle in Infant Feeding."** Alfred C. Cotton, 1485 Jackson blvd., Chicago.

Abstract.

Mortality statistics of natural and artificial feeding compared. Relative morbidity attending each method. Human milk compared with that of other mammals. Dangers in the acceptance of even the best known methods of artificial feeding, as satisfactory. The more nearly perfect the food laboratory, the greater the possibility of harm from over-confidence in artificial methods. Infants too frequently denied the breast for trivial and insufficient reasons. In view of our knowledge of the morbidity and mortality of the artificially fed, what right have we needlessly to expose any infant to such chances? Plea for the establishment of a bureau of information and supervision to facilitate the procuring of wet nurses when required.

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3. **"Cockroaches as Typhoid Infection Carriers."** Rosa Engelmann, 100 State st., Chicago.

Abstract.

(1) Vermin as active intermediary hosts of various infections; (2) history of a house epidemic of typhoid fever; (3) Cockroaches; sewage and water denizens not heretofore classed as typhoid infection carriers; (4) need of examination and cultures from intestinal contents and from feet of cockroaches for pathogenic germs—especially the Eberth bacillus; (5) opportunity the coming summer (after necessarily prolonged rainfall) for such work in the vermin-infested slums of Chicago.

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4. **"Psychotherapeutics."** E. A. Edlen, Moline.

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5. **"Xanthome (or Brometone), a New Sedative; Its Therapeutic Effects in Relieving the Cough and Headache of Acute Tracheitis and in Relief of Asthma."** E. Fletcher Ingals, 34 Washington st., Chicago.

6. **"Lacunar Tonsilitis."** James Moreau Brown, 34 Washington st., Chicago.

Abstract.

Explanation of the title, giving special reference to the erroneous term "follicular." Mode of onset, its occurrence after intra-nasal operations, extension, etiology, and contagiousness.

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7. **"Alimentary Putrefaction."** J. W. Hensley, Peoria.

Abstract.

What are the most potent causes of alimentary putrefaction and the dangers arising from decaying putrid matters in the alimentary tract?

Discuss the principal points along the **prima via** where the ingesta and secretions are most likely to decompose—without normal digestion, thus becoming putrid, irritating and toxic.

Can the contents of the alimentary canal be rendered aseptic or disinfected so as to modify and control harmful decomposition, thus preventing autointoxication due to the absorption of ptomaines emanating from decaying, putrid matters, together with toxines which may come forth from the alimentary bacteria which are so abundant and lively where putrefaction is going on?

A solution of these problems is of far greater consequence than to cut for appendicitis, or dredge the Illinois River for typhoid microbes.

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8. **"The Distribution of Blood Vessels in the Labyrinth of the Ear, with Exhibition of Preparations and Drawings."** George E. Shambaugh, 100 State st., Chicago.

Abstract.

This subject has been worked out by making a large center of celloidin carts of the pig's ear from preparations in which the blood vessels had been previously injected. Such celloidin carts when cleared in creosote become perfectly transparent, and when viewed with the steryscopic microscope, present a beautiful picture of the circulation in its entirety. Specimens and drawings will be exhibited.

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9. **"A Few Cases of Hysteria."** H. T. Patrick, 34 Washington st., Chicago.

Abstract.

A report of cases of hysterical paraplegia, hysterical amblyopia with rigid pupil, hysterical anorexia, hysterical pseudo meningitis and hysterical deaf mutism.

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10. **"Interstitial Nephritis; Its Diagnosis and Management."** Edward F. Wells, 47th and Kenwood ave., Chicago.

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11. **"Arterio Sclerosis; Its Effect Upon Brain and Kidney."** Charles Louis Mix, 3035 Park ave., Chicago.

Abstract.

I. Definition. Limitations of the paper.
II. Pathology:
  (a) Arterial changes.
    1. In the brain.
    2. Elsewhere, especially in the kidneys.
  (b) Remote pathological effects.
    1. In the brain.
    2. In the kidneys.
III. Symptomatology.
  (a) Cerebral symptoms.
    1. Hemorrhage.
    2. Thrombosis.
  (b) Renal symptoms.
    1. Their relation to chronic interstitial nephritis.
    2. Their relation to cerebral hemorrhage.
IV. Treatment.
  (a) Of the arteries.
  (b) Of their effects upon brain.
  (c) Of their effects upon kidney.

12. **"Pneumonia as an etiological Factor in Nervous Diseases."** Frank P. Norbury, Jacksonville.

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13. **"Original Researches Regarding Human Sweat."** Julius H. Hoelscher, 34 Washington st., Chicago.

Abstract.

Over 100 specimens; practical deductions, acenalid loses its antipyretic effect when used in connection with the hot air bath, etc. Diaphoretics should always be used in connection with the hot air bath; sodium salicylate, pilocarpine and acetanilid apparently less toxic when used in connection with hot air baths, etc.

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14. **"The Diagnosis and Treatment of Obscure Syphilitic Lesions of the Eye."** E. F. Snydacker, 103 State st., Chicago.

Abstract.

Frequency of blindness due to syphilis; frequency with which syphilis simulates various eye diseases; history of a number of such cases; impossibility of diagnosis of such cases from clinical aspect alone; co-existence of syphilis with other diseases; necessity of careful urinalysis in lesions of the eye even though syphilis is known to be present; value of therapeutic test in all suspicious cases; therapeutic methods.

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15. **"The Insane Temperament."** Sanger Brown, 100 State st., Chicago.

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16. **"The Therapeutics of Suppurating Ear Diseases in Relation to the Bacteriological Findings."** Ralph C. Matheny, Galesburg.

17. **"The Presence of Seminal Elements in the Urine; Their Significance and their Importance as a Cause of False Albuminuria."** Arthur R. Elliott, 103 State st., Chicago.

Abstract.

Frequency and clinical importance; entire lack of literature on the suject; physiologic and pathologic conditions under which semen gains access to the urine; chemical re-actions produced by seminal elements in the urine; microscopic characteristics; relation of cases; differential testing.

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18. **"The Treatment of Some of the Degenerations of the Cerebrospinal Apparatus, with Particular Reference to Optic Atrophy."** Archibald Church, Pullman Building, Chicago.

Abstract.

The general feeling is that degenerations taking place in the conducting tracts of the cord, as in locomotor ataxia, and atrophy of the optic nerve, arising from any cause, as well as the changes in the brain and cord that are found in paretic dementia are quite unameanable to treatment. In all of these conditions the tendency to remission is in itself a confusing element in judging the therapeutic value of any line of treatment.

In the case of the optic nerve the ophthalmoscope enables us to actually see changes which are taking place and by appropriate tests, variations for better or worse can be actively determined and systematically recorded.

A number of cases of optic atrophy associated with a secondary syphilis have been under observation for from two to ten years and are made the basis of an estimate of the value of mercury in controlling these degenerations.

Ophthalmoscopic examinations and perimetric records made in these cases by competent oculists, demonstrate that in some instances degenerations in the optic nerve can be distinctly controlled. Other cases of locomotor ataxia and paretic dementia are adduced, in which the clinical records indicate a similar retarding influence upon the processes of degeneration in brain and cord.

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19. **"Euphthalmin as a Mydriatic for the General Practitioner."** Albert B. Hale, 103 State st., Chicago.

Abstract.

The use of the ophthalmoscope is becoming more general in medical diagnosis; need of a drug to dilate the pupil not only to study the condition of the fundus and also to note condition of cornea, iris, and lens. Atropin too powerful and destroys accomodation; Homatropin is of only less strength and is expensive; Cocain good, but dangerous to eye: Euphthalmin scarcely affects accomodation, dilates pupil fully and in a short time; has no dangerous

element about it and its effect passes quickly away. Reports of experiments.

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20. **"Barrow's Method of Formalin Intravenous Injections."** J. H. Stealy, Freeport.

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21. **"Clinical Observations on Arterio-Sclerosis."** Charles A. Elliott, Chicago.

Abstract.

Properly considered a disease in itself, i. e., a clinical entity, in which chronic bronchitis, chronic nephritis, and high arterial tension and its consequences i. e., epistaxis, central hemorrhage, vertigo, hypertrophied heart, etc., are manifestations.

Theories as to causation: Toxic; stress and strain.

A conservative process, i. e., a physiological compensation to conserve degeneration of arteries, manifested by (1) cardiac hypertrophy; (2) thickening and rigidity of arteries; (3) functional contraction of arteries not sclerosed.

Pathology. Varieties, nodular and general; irregular distribution of arterio- sclerosis; cardiac hypertrophy right and left sided; cardio-sclerosis; coronary sclerosis; limit of nutritive possibility of heart muscle.

Association with emphysema; arterio-sclerosis of vessels of lung; rigidity of lung (Brasch's theory); theory of common origin of arterio-sclerosis and emphysema; antecedent malnutrition of pulmonary tissue, with atrophy of alveolar walls and disappearance of blood vessels; connective tissue changes.

Symptoms. Summed up in high arterial tension, manifested by vertigo, hypertrophy, and often dilatation of heart, accentuation of second aortic and pulmonic sounds; dyspnoea, cyanosis, oedema, enlarged tender liver, evidences of stasis, enlarged prostate, albuminuria, etc.

Potential Symptoms, i. e., cerebral hemorrhage, retinal hemorrhage, epistaxis, hemoptysis.

Treatment-prophylactic. Essentially, remedies to relieve high arterial tension—nitrites, iodides, cathartics.

Nitro-glycerin most useful; dilates vessels. Cannot hope to affect organic change, but can the functional contraction of arterioles not sclerotic; always enough of latter to affect blood pressure; relieves heart of large amount of work; unloads heart; allows heart opportunity to regain strength; increases nutritive possibilities of heart muscle; relieves bronchitis; relieves enlarged prostate; especially useful during period of functional high pressure preceding anatomical changes in arteries, due to increased activity of vaso-motor system.

Citation of few cases from South Side Dispensary.

Summary.

22. **"The Danger that may Lurk in Blind Eyes."** Cassius D. Westcott, 31 Washington st., Chicago.

Abstract.

Difference of opinion and practice in regard to retention of single blind eyes. Danger of retaining blind, but apparently quiet eyes destroyed by injury and inflammation. Illustrative cases. Danger from malignant disease in some single blind eyes, where accurate and positive diagnosis is impossible. Illustrative cases. Conclusions.

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23. **"Tonsilar Hemorrhage Following Operation."** Lawrence R. Ryan, Galesburg.

Abstract.

The comparative infrequency of alarming hemorrhage from the tonsils following amputation or complete removal, seems to have dulled the senses of the profession (not excluding our best authors), to the possibilities of its dangers. It is an old saying that "the unexpected always happens," and this is as true in medicine as anywhere else. The young physician who has never had a case of post partum hemorrhage, sympathetic ophthalmia, or grave tonsillar hemorrhage, is apt to assume that such are impossible.

In my first twelve or fifteen years of practice I never had a case of alarming hemorrhage from the amputated tonsil, but within the past year, four cases have come to my knowledge—one of my own, and three from other practitioners.

Since such an occurence is a possibility, how shall we guard against it? And if it occurs how shall we treat it? The condition of the patient must be inquired into. Is he a bleeder? Is the hypertrophied tonsil densely fibrous? Are there malignant growths attached? What influence have general anesthesia, adrenalin, or cocain in the possibility of hemorrhage? What form of tonsilatome is the best? Comparative merits of the hot or cold snare and the usual cutting instruments, etc. Report of four cases—two male and two female; the two males hemophiliacs, etc. The treatment used to control hemorrhage.

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24. **"In Which Disease may we Expect Improvement of Hearing."** J. Holinger, 103 Randolph st., Chicago.

Abstract.

Improvement in hearing.

Introduction: Comparison of methods for comparing the hearing.

Improvement of hearing in acute diseases.

(a) Simple inflammation.

(b) Suppurations from the middle ear.

(c) Mastoid operations.

Improvement in hearing in chronic diseases.

(a) Chronic suppurations.

(b) Residues.

(c) Operations for cholesteatoma.

Chronic progressive deafness.

Differential diagnosis.

1. Affections of the tubes.
2. Spongifying.

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25. **"Abdominal Pains in Pleurisy and Pneumonia."** James B. Herrick, 103 State st., Chicago.

Abstract.

Pain in pleurisy and pneumonia may be referred not only to the affected side of the chest, but to the opposite side of the abdomen. In the latter case abdominal disease, e. g., appendicitis, may be simulated. Importance of recognizing the thoracic organ of the pain, as it may thus prevent surgical interference. Illustrative cases. Anatomical basis for the referred pain found chiefly in the course and distribution of the intercostal nerves. Diagnosis generally easy when once the possibility of thoracic cause for the abdominal pain is thought of, and a careful examination of the chest made.

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26. **"Tabes and Spurious Tabes."** D'Orsay Hecht, 4304 Grand blvd., Chicago.

Abstract.

1. By way of introduction. (a) Consideration of the term spurious, as here applied; (b) The term pseudo-tabes, a misnomer.

2. Citation of cases with differential considerations.

3. Symptoms, subjective and objective, of genuine tabes in the order of their importance and frequency.

4. Brief therapeutic suggestions.

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27. **"Unclean Milk; Bovine Tuberculosis and the Tuberculin Test; Their Relation to the Public Health."** E. R. Larned, Chicago.

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28. **"Retinal Hemorrhage in Relation to Degenerations of the Circulatory Apparatus."** T. A. Woodruff, 103 Adams st., Chicago.

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29. **"Pulmonary Tuberculosis and its Home Treatment."** James L. Lowrie, Lincoln.

Abstract not in.

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30. **"Some Advances in Eye and Ear Treatment."** J. B. Taylor, Bloomington.

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31 **"A Report of Ten Post Mortems, the Causes of Death Being Lesions of the Abdominal Viscera."** Paul L. Markley, Rockford.

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32. **"The Metric System."** John A. Koch, Quincy.

33. **"Some Unusual Cases of Chorea."** L. Harrison Mettler, Chicago.

Abstract.

A report of a few peculiar cases of chorea. Advance of the idea that chorea is a symptom and not a disease, that its etiology is not so obscure as it appears to be, that it has some remarkable frequently overlooked features in its symptomatology and that its treatment is varied, and deserving of more careful study.

34. **"Intestinal Antiseptics in Typhoid Fever."** N. S. Davis, Jr.

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35. **"Splenic Anaemia and Anaemia Infantum Pseudoleukaemica."** Maximilian Herzog, Chicago.

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36. **"The Secondary Results of Cardiac Disease; A Case Unique."** John A. Robson, Chicago.

Abstract.

Discussion of the various valvular lesions and their pathological sequences, myocarditis and the secondary symptoms. A case of mitral insufficiency with ruptured compensation, dropsy, and proliferative inflammation of the skin, with return of compensation and disappearance of the secondary symptoms. The entire circle of invalidism lasted two years.

SECTION TWO.

W. E. Schroeder, Chairman.....Chicago
J. B. DeLee, Secretary.....Chicago

Surgery and the Surgical Specialties.

Address:

"The Renaissance"

J. L. Wiggins, East St. Louis.

"The General Practitioner and his Relation to Early Surgical Operations." E. B. Montgomery, Quincy.

Abstract.

The author calls attention to the fact that the internists are too often apt to be influenced by the lay opinion that surgical operations are only to be done as a last resort, and unconsciously lend themselves to delay in a large class of cases that should have surgical intervention early in their course. He contends that the unfavorable results which are shown to follow in too large a per centage of cases of carcinoma of breast and uterus are due to late operation. Appreciating this, the general practitioner should encourage among his patrons immediate consultation of the physician concerning every trouble with the breast in woman, however, insignificant, or any irregular hemorrhage occurring after the age of 40 years, and if there is the slightest question concerning

the presence of malignant disease should associate a surgeon with him in the case. In the author's opinion the same rule should obtain in typhoid fever with any evidence of perforation, in appendicitis, in cholecystitis with enlargement of the gall-bladder, and in enlargement of the prostate gland after the catheter life has begun. In pleuritic effusions lasting over two weeks whether purulent or not, and in hypertrophic cirrhosis of the liver the early presence of the surgeon is advocated. In support of these opinions facts and cases are adduced.

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2. **"Spinal Injuries."** E. Mammen, Bloomington.

Abstract.

An array of perplexing problems. Organs involved. Purpose of the paper. The policy of non-interference. Cases. Laminectomy. Principles of treatment.

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3. **"The Traction Injury of Arteries."** S. M. Wylie, Paxton.

Abstract.

Normal nutrition and vascularization of the extremities depend upon an unobstructed flow of normal blood.

Stagnation, partial or complete favors the formation of fibrinous clots.

Traction injuries of arteries by disturbing the normal relation and function of the various coats favors thrombus formation in two ways: (1) The ruptured walls of the interna curling up in the lumen of the vessel acts as an obstructant to the current; and, (2) the loss of contractile power from the overstretched or torn muscular fibres favors stagnation and arrest of the flow.

Both are factors in the function of occlusion thrombi causing complete arrest of circulation beyond and subsequent death of the part. This is a surgical accident often overlooked at the time of the first dressing of an injured extremity and when subsequent gangrene ensues as often does is attributed to faulty methods of applying the dressings.

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4. **"Modern Surgery of Congenital Cleft Palate."** S. R. Hopkins, Springfield.

Abstract.

History and evolution of the operation.

Description of uranoplastic operation in infancy and its advantages over later operations, with statistics of different operators.

Description of staphylorrhaphy in later life.

Remarks on the power of speech following operations.

Recommendation of a change from the usual modus operandi of closing continuous clefts in children over six months of age, with a report of two cases illustrating the proposed method.

5. **"Insanity following Surgical Operations."** W. H. Maley, Galesburg.

Abstract.

I. Is it possible for an operation of itself to cause insanity?

II. The Mental and Physical condition of patient at time of operation.

III. What cases of operation are most liable to be followed by insanity.

IV. The effects of anaesthetic, drugs and dressings.

V. What precautions may be taken to avoid so untoward a result.

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6. **"A Singular Dislocation of the Metacarpo-Phalangeal Joint, Irreducible under Anesthesia."** Homer M. Thomas, Chicago.

Abstract.

Relative frequency of this injury:
Anatomy.
History of case.
X-Ray.
Operation.
Presentation of patient.

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7. **"Successful Removal of a Cystic Fibromyoma of the Uterus, weighing Eighty-seven pounds."** J. Clarence Webster, Chicago.

Abstract.

Woman, married. Age 41. Tumor of ten years duration.

Measurements: Greatest girth of abdomen, 5 feet. Lowermost portion of pendulous abdomen 11 inches below level of anterior superior iliac spines.

Operation, Dec. 16, 1902. Abdomen opened after Schleich infiltration of skin. Separation of adhesive and ligation of vessels carried out during one hour without any general anesthetic. During another hour and half only ounces vi chloroform used. Panhysterectomy performed. Normal recovery.

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8. **"Continued Development of the Fetus after Rupture of the Membranes and Prolapse of the Cord."** H. W. Chapman, White Hall.

Abstract.

Patient nullipara, married. Last catamenia, March 25, 1879. Health excellent until July 5th following, when she was taken with a severe dysentery.

July 7th, rupture of membranes, escape of large quantity of amniotic fluid with a little blood. August 14th prolapse of pulsating cord. August 15th, delivered of a foetus of not less than four months development. Quickening had not taken place, but the cord continued to pulsate several minutes after expulsion of foetus.

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9. **"The Indications for the Tampon in Post Partum Hemorrhage."** C. S. Bacon, Chicago.

10. **"Operative Dysmenorrhea."** G. Kolischer, Chicago.

Abstract.

(a) Definition of the term.

(b) Etiology.

(c) Different methods of treatments; results and criticism of both.

(d) The author's method.

(e) Report of results.

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11. **"A Simple Method of Appendectomy."** Emil Ries, Chicago.

Abstract.

The old methods of stump-formation, their dangers or inconveniences. Methods without stump. A simple method of doing away with the stump. Clinical and experimental evidence.

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12. **"The Treatment and the Causes of Death in Placenta Previa."** P. M. Burke, La Salle.

Abstract.

The point which I wish to make is that cause of death in Placenta Previa is extensive rupture of the womb and not hemorrhage due to mere separation of the placenta in the act of turning as is popularly believed. Out of 9 cases on all of which I turned, there were four extensive ruptures, three of which died and one recovered by immediately repairing the injury. Cause of death applies to mother as the cause of death of child is self-evident. The only deaths were in the ruptured cases unrepaired. The lack of knowledge is due to small individual experience consequent on the infrequency of such cases. In numerous cases of turning in about a thousand cases of obsteterics, I never had a rupture except in placenta previa. The occurrence of rupture in these cases is not a coincidence, but due to the friable, brittle condition of the lower segment of the uterus.

The treatment is surgical action, prompt, heroic and skillful repair of the rupture.

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13. **"Ovarian Dysmenorrhea, its Treatment by a New Method of Operating."** Norman Kerr, Chicago.

Abstract.

The frequency of dysmenorrhoea in general and its interest to the medical profession. The unsatisfactory condition of the pathology of ovarian dysmenorrhoea, and its denial by some of the profession. The difficulty of carrying out an efficient treatment in those females who are not in comfortable circumstances financially. The unsatisfactory result of the treatment heretofore in vogue. The indications for the operation and its advantages in avoiding the sacrifice of important organs to the human economy.

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13. a. **"The Treatment of Puerperal Infection."** T. J. Watkins, Chicago.

14. **"Pelvic Abscess."** J. A. Baughman, Neoga.

Abstract.

Great frequency in women; causes of infection; Route of infection; Structures involved; the kind of micro-organisms; signs and symptoms; digital examination the most important; Treatment, expectant and surgical.

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15. **"The Curette in Puerperal and Non-puerperal Cases."** W. P. Davidson, Sullivan.

Abstract.

(a) Definition.

(b) Technique.

(c) Etiology.

(d) Diagnosis.

(e) Occurrence of puerperal fever after confinement and curette used.

(f) Non-puerperal cases and results.

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15. a. **"Practical Comments on the diagnosis and Treatment of Pelvic Suppuration in Women."** F. Henrotin, Chicago.

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15. b. **"Tubercular Peritonitis."** J. B. Murphy, Chicago.

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16. **"Tuberculosis of the Vestibule of the Female Genitals."** J. H. Stealy, Freeport.

Abstract.

A brief review of cases in literature; the rarity of the lesion; the possible cause of the unfavorable course taken by the disease in this region; the difficulties attending the determination, whether the lesion be primary or secondary; its bearing on prognosis. Tuberculin the only accurate method. Review of a case.

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17. **"Radio-Therapy, with Report of Some Cases."** Chas. D. Center, Quincy.

Abstract.

I. Object of paper to add to clinical findings in x-ray therapy.

II. While in no way condemning radio-therapy the author believes too much is claimed for this new method.

III. Divisions of cases as follows:

(a) Those in which a cure may be expected.

(b) Those where no cure may be hoped for, but where temporary improvement may be secured with considerable retardation of usual course of disease.

(c) Those made worse by the rays.

IV. Report of 9 cases.

18. **"Clinical Report of Two Tumors Benefited by the X-Ray."** W. J. Eddy, Shelbyville.

Abstract.

Mr. A. 27 years. A German. Injury to Tibia, six months after a hard growth appeared. Two years later growth extended over central half of leg and partial destruction of bone. Mass large and hard and very painful at times. Amputation refused. Five weeks treatment with X-Ray, severe burning, violent inflammation, rapid softening, evacuation of 1½ pts. clear yellow serum. Opening and cleaning out of bone, packing and rapid healing, with a weak but useful leg.

Mr. B. Age 45. American. Growth in Axilla that rapidly enlarged and involved the pectoral muscles in three months, no inflammation, sharp pain. Infiltrated all tissues of the axilla and anterior part of the shoulder and showed as large as a man's fist and growing rapidly, firm and hard and soon became immovable. Operation not justifiable as it would involve shoulder and arm. Under X-Ray shrank to a small nodule which discharge a little sero purulent matter and gradually disappeared, leaving function of arm only slightly impaired.

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19. **"Vibratory Massage in Diseases of the Prostate Gland."** L. E. Schmidt, Chicago.

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20. **"Indications and Limitations and Technic of Prostatectomy."** G. F. Lydston, Chicago.

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21. **"Pemphigus."** E. A. Fischkin, Chicago.

Abstract.

Definition of the term. The different clinical varieties of the disease. Their pathological sinification. Dermatitis herpetiformis (Duhring) and its close relation to Pemphigus. Report of cases.

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23. **Title Unannounced.** Jos. B. Bacon, Macomb.

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24. **"The Treatment of Injuries of the Eye."** Henry Gradle, Chicago.

Abstract.

Distinction between mechanical consequence of eye-injuries and infection. Foreign bodies. Surgical treatment of wounds of the eye. Removal of foreign bodies. Conservative treatment of traumatic infection. Danger of Sympathetic involvement of second eye. Rules for enucleation.

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25. **"Accident of the Antrum, with Special Reference to a Peculiar Case."** E. V. D. Morris, Galesburg.

26. **"The Surgical Treatment of Trachoma, with Report of Cases and Demonstration of Method."** J. Whitfield Smith, Bloomington.

Abstract.

1. What constitutes the cure of trachoma?
2. The object to be attained by surgical proceedure.
3. The advantage to be gained by the use of trachoma forceps.
4. A report of six cases, illustrating the operations at different stages of the disease.
5. Demonstration of method employed.

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27. **"The Treatment of Peri-tonsillar Abscess."** Norval H. Pierce, Chicago.

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28. **"The Management of Crossed Eyes in Children."** Willis O. Nance, Chicago.

Abstract.

Etiology of strabismus.

Clinical history.

"Early treatment, rational treatment."

Non-operative treatment of very greatest significance.

Atropin, glasses, occlusion pad, stereoscope, bar-reading.

Surgical treatment indicated in only a minority of instances.

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29. **"Dislocation of the Astragalus; Its Surgical Treatment."** J. F. Percy, Galesburg.

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30. **"Hypertrophic Rhinitis."** Charles M. Robertson, Chicago.

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31. **"Strangulated Hernia: A case which required the resection of seven inches of gut, exsection of the appendix, right tube and ovary and the evacuation of a large abscess."** Carl E. Black, Jacksonville.

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33. **"Report of a Case of Gall Stone Simulating Benign Pyloric Stenosis."** J. E. Allaben, Rockford.

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34. **"Normal Salt Solution in Surgery."** F. E. Wallace, Monmouth.

Abstract.

Its restricted use among physicians.

Its numerous uses.

Its physiological effect.

Its administration.

Large quantities not necessary.

On account of cheapness do not think worthless.

Case reports.

Conclusions.

SECTION THREE.

W. K. Newcomb, Chairman.....Champaign
W. C. Bowers, Secretary.....Decatur

Address—"Food" by J. A. Wesener, Chicago.

Abstract.

Definition.

Digestion.

Assimilation and caloric value.

Flavors.

Adulteration.

Diet for all classes, and adapted to climate.

What role does food play on the temperament of the individual?

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1. **"Some Observations on Iodophilia,"** Adolph Gehrman, Chicago. (No synopsis.)

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2. **"The Examination and Commitment of the Insane to Public and Private Hospitals, from a Medical Standpoint,"** E. L. Crouch, Jacksonville. (Discussion opened by Frank P. Norbury, Jacksonville.)

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3. **"The Diplococcus of Scarlatinae,"** W. J. Class, Chicago. (Discussion opened by W. K. Jaques, Chicago.)

Abstract.

In this paper I will call attention to its diagnostic importance especially in cases where the rash is atypical. I will also explain some of the difficulties which may be encountered in recognizing the germ and how they may be avoided.

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4. **"A Sociological View of Criminal Abortion,"** W. J. Fernald, Frankfort, Ind., non-resident member. (Discussion opened by E. A. Morgan.)

Abstract.

The synopsis of the paper runs as follows: It is pardonable to discuss this question of sociology in this Society because the question often presents itself to every physician in requests for the performance of this operation.

Since Society must propagate itself or perish, the constitution of the universe makes sexual intercourse of prime importance; and has set a price on its indulgence which no matter how man may try to avoid its payment, he must pay. The price of legitimate intercourse is the burden of a family. The price of illegitimate intercourse by either husband or wife where the other avoids intercourse because no family is desired, is either disease or a broken home or both. Illegitimate intercourse among the unmarried brings disease, social ruin or homeless children; while no effort made by those indulging in intercourse to prevent conception, can be certain to prevent it for any extended period without producing impotence in the male, sterility in the female, or both.

Looked at from every point of view, nature has so arranged the safe guards of this, man's greatest passion, that its violation in any degree produces a measure of death in the individual, the family or the state in precise ratio as that violation has been successful. No higher price is demanded for any gratification than for this; for no gratification is the price more rigidly exacted; and the price paid for indulgence in any way to avoid responsibility is death to the individual, the family and the state, none the less certain because it is delayed.

It is our business as physicians to realize the fact and instruct those over whom we have influence. For no one can say with such hope of helping those tempted as we.

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5. **"The Legal Status of the Doctor,"** H. C. Jones, Decatur. (Discussion opened by Wm. M. Harsha, Chicago.)

Abstract.

Though the physician is, as a rule, a well informed man, it is a fact that he is lamentably deficient in a knowledge of the law in its application to his rights and responsibilities. * * * not to be expected that a physician should be his own lawyer any more than a patient should be his own doctor, yet a little more knowledge on these points might save much litigation and trouble. * * * * *

The right to practice medicine is not limited or abridged under the common law, which governs in the absence of special enactments, but most of the states have passed laws governing this privilege. * * * *

It is well for a physician to be sure he has complied with the requirements of the law as otherwise he cannot collect any compensation for his services. To physicians called into neighboring states it is well to know and avoid infringement of their regulations. * * * * In twenty-four states provision is made for meeting resident physicians in consultation. * * * * *

The law which confers on boards power to grant licenses also gives power to revoke the same for the following causes: * * *

Contracts are either express or implied. If express, they may be written or verbal. All are equally binding, though the stipulations in a written contract are obviously more readily susceptible of proof.

Whenever a doctor undertakes the treatment of a case, certain implied contracts arise depending on the relation of the parties. * * *

He binds himself that he is possessed of "ordinary skill" and experience, and that he will "exercise the same" according to his best judgment, and after "approved methods," * * * * patient conversely has certain obligations as well as rights. * * * *

Then third parties, by which is meant interested parties other than the patient, have certain rights and liabilities. * * * *

"The amount of compensation a doctor shall be allowed is a matter of fact and not of law." * * * "That no benefit was obtained is not a bar to recovery." * * * *

In certain states, notably New York and Maine, a judgment obtained for services is a perfect bar to recovery for mal-practice in the same case. In Wisconsin and Iowa a contrary view has been upheld by the courts. Where the former decision is upheld we are encouraged to follow the amended golden rule, which may be paraphrased thus: Do unto the other fellow what he intends to do to you, but do it first.

6. **"Bacteriological Examinations of the Blood, from a Clinical Standpoint,"** L. Hektoen, Chicago. (Discussion opened by James B. Herrick, Chicago.)

Abstract.

Synopsis: 'Discussions of the technic; summary of the most important results of systematic bacteriological examinations of the blood recorded in the literature; summary of personal work; the scientific and practical value of the method in pneumonia, typhoid fever, in cases of sepsis, etc."

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7. **"Educational Opportunities and Needs of our Civil Courts, from a Medical Standpoint,"** O. B. Will, Peoria. (Discussion opened by Harold N. Moyer, Chicago.)

Abstract.

The object of this paper is to draw the attention of the medical profession generally to the growing importance of their relation to the civil tribunals of the commonwealth, both in respect to their mutual value to each other and the educational value of their combined influence to the general public. It is argued that at the present time even the technical requirements are such as to demand greater care and attention on the part of medical men than ever before, and that they should, consequently make a greater effort, through preliminary instruction and constant study, to meet these new and ever increasing demands upon them. It is maintained that the progress of medical science and art, as well as the changing demands of civilized life, is continually complicating rather than simplifying the judicial requirements, and hence the need of greater preparation to meet the issues, and keener recognition of their importance.

The point is made that the courts have virtually become arenas for scientific debate, in which the medical and legal professions are often engaged in striving for the mastery, and consequently offer in themselves educational opportunities of no mean scope and degree. In fact this applies not only to the two professions mentioned, but to the general public, who are always interested in whatever of the kind comes up for consideration and adjudication. No other field offers so good a chance for the profession of medicine to exhibit its influence, power and worthiness before the public, and it should take advantage of it in attempting to secure that consideration in all the demands of life to which it considers its learning and dignity entitled. Attention to this phase of professional involvement should be considered as a valuable opportunity in the scheme of educating the public to that appreciation of professional standing for which we are so constantly contending.

To the above end the author suggests the advisibility of the section having consideration of these matters making a routine practice of securing a synopsis of the leading points at issue in the several judicial tribunals during the year, where they involve points of disputation in medicine or surgery, and have them presented for discussion at the succeeding annual meeting of the State Society. It seems to him that nothing could be of greater general value and interest than such a presentation, together with the judgments rendered, and the reasons therefore. Such a course would be of great practical value, and would awaken a lively sense of our responsibility. By way of illustration the author cites a number of actual occurrences during the year, in which medical men were put to a severer test than they ever are in their professional organizations, and draws therefrom the conclusion that it might be well to adopt some such strenuous methods in sifting the wheat from the chaff and getting the best results in medical Society discussions.

---

8. **"Sewage Disposal for Inland Towns."** Prof. A. N. Talbott, Champaign University. (Discussion to be opened by C. B. Johnson, Champaign.)

Abstract.

Growth of population, conveniences, ideals, and sanitary requirements in inland towns. The purposes of sewage purification and their relation to economy in the construction and operation of purification plants. A brief discussion of the processes by intermittent downward filtration, septic tank, roughing beds, contact beds, continuous filters and rapid filtration and their results. Purification in streams. The operation, supervision and maintenance of plants. Bacterial and chemical results. Comparison of processes, and conditions favorable to selection or operation of the various processes. Duty of the medical profession in raising standards in this line of sanitation.

Marriages, Deaths and Changes of Address.

Marriages.

Herman D. Peterson, M. D., to Miss Marie Freeman, Chicago, April 20, 1903.

Samuel C. Plummer, M. D., Chicago, to Miss Middleton, Davenport, Ia., March 18, 1903.

Wm. A. Campbell, M. D., to Miss Jeannette E. Holsted, Chicago, April 9, 1903.

T. E. McMurtry, M. D., to Miss Grace Polglase, Chicago, April 16, 1903.
Dan'l W. Rogers, M. D., to Miss Helen S. Wainwright, Chicago, April 16, 1903.

Deaths.

Blaisdell, Warren O., Macomb, March 18, aged 48.
Collins, Almer M., Shelbyville, March 10, aged 58.
Craig, Jas. D., Chicago, April 13, aged 70.
Donkle, Alfred D. F., Chicago, March 13, aged 25.
Fox, Julius C., Keysport, March 12, aged 65.
Fink, I. W., Hillsboro, April 16, 1903, aged 76.
Marshall, Hugh, Monmouth, April 10, aged 77.
Martin, Hans. M., Newark, March 17, aged 34.
Stuve, Bernard, Springfield, April 11, aged 73.
Tuthill, Dani. H. S., Chicago, April 18, aged 43.

Changes of Address.

Changes To and From Chicago.

Hunt, E. S., to Rockford.

Changes in Chicago.

Stubbs, F. G., 4256 Grand Blvd., to 3203 S. Park ave.
Wolf, H. P., 4257 Grand Blvd., to 6509 Minerva ave.
Montgomery, L. H., 100 State st., to 92 State st.
Boot, G. W., 1945 Maple ave., to 1945 Maple ave., Evanston, Ill.
Pleth, Valdemar, 750 W. North ave., to 1002 92 State st.
Tice, Frederick, to 1496 West Madison st.

Changes To and From Illinois.

Freas, F. L., Worthing, S. Dak., to Nulledgeville.
Stewart, Chas., St. Louis, Mo. to Belleville.

Changes in Illinois.

Holke, T. J., Tallula to Bluff Springs.
Patchen, C. C., Chandler, Okla. to Havana.
Trinkhaus, J. L., Peoria to Elkhart.

New Incorporations.

New incorporations were authorized by the secretary of state at Springfield, as follows:

Dinet & Delfosse Pharmacal company, Chicago; manufacturing drugs, medicines, and chemicals; incorporators, Henry G. Dinet, Joseph T. Delfosse, Joseph H. Mulke; capital, $100,000.

Brainard Policlinic, Chicago; capital, $10,000; educational; incorporators, Bayard Holmes, Hugo Oldenberg, Benjamin Levering.

Goat Lymph Sanitarium association, Chicago; capital increased from $5,000 to $25,000.

McCormack Bros. Homeopathic pharmacy, Chicago; capital, $10,000; manufacturing and dealing in drugs, chemicals, and druggists' sundries; incorporators, C. F. Schaefer, Sigmund Goldstein, Alfred F. Tompkins.

H. W. Baskette Medical company, Chicago; capital, $10,000; dealing in drugs and medicines; incorporators, Edward J. Sandberg, John C. Wilson, Frank P. Reynolds.

Bartlett Cure Company, Monmouth; capital, $24,000; manufacturer and sale of medicines; incorporators, Daniel C. Bartlet, Charles S. Painter, Charles Tobey.

Finsen Light Institute of America, Chicago; capital, $50,000; furnish treatment with the Finsen system of light cure; incorporators, Benson Wright, Frank F. Douglas, M. B. Cearon.

Dr. Andrews Birthday This Week.

Edmund Andrews, M. D., LL. D., founder of Chicago Academy of Natural Sciences, and one of the leading surgeons of the west.

The best habit Dr. Andrews has acquired in his 79 years, he says, is "sticking to my friends."

"The crowning happiness of a ripe age is to have a good family. Pleasure in age is different from that of energetic exertion in middle life, and one, perhaps, is equal to the other."

Dr. Andrews' recipe for attaining a good old age: "Proper care to avoid diseases and accidents will do more than any other one thing to promote longevity. Few people die of old age under 85. We should avoid preventable things as far as we can, take chances with the rest, and not fret.

"My dear friend, the late Dr. Hosmer Johnson had delicate lungs and through life was expected to die of tuberculosis. However, he was careful of himself and survived a number of attacks of pneumonia. When 60 years of age he was called out on a cold night and took pneumonia, and this time could not resist it. If it had not been for the accident of having been called out that bitter night he might have lived ten years longer."

What most interests Dr. Andrews: "The progress of the human race and the magnificence of nature. I have always been enthusiastic over the magnificence of nature, particularly the splendor and sublimity of natural scenery and the beauty existing in all living natural objects. My greatest recreation is to get away from city life to the lakes, woods, and mountains and spend the time in camp.

"I have always tried not to have hobbies. The study of the sciences, especially surgery, comes as near to my hobby as anything."

Dr. Andrews is an enthusiastic surgeon: "The essentials for a good surgeon are a naturally mechanical head, honesty, and hard study. Surgery appeals to the public as a brilliant branch of the profession, and the temptation to a dishonest surgeon is to do things that will make a brilliant show instead of things most to the interest of the patient.

"My favorite operation is litholapaxy—special bladder operation. In the general pain of sickness women tolerate pains better than men, unless special circumstances arise to disturb them, when they become more readily excited and less amenable to reason than men."—Chicago Tribune.

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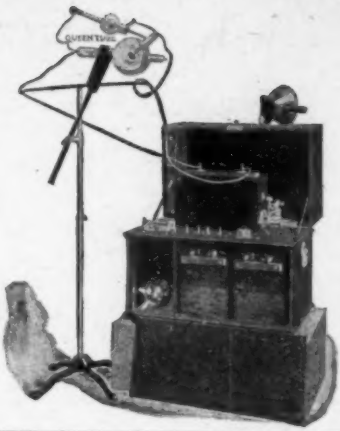

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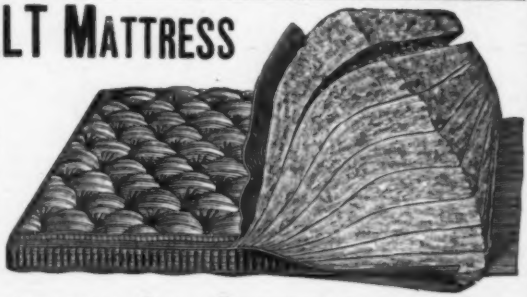

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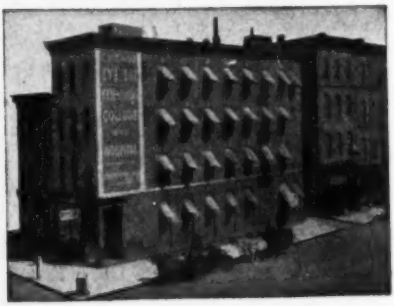

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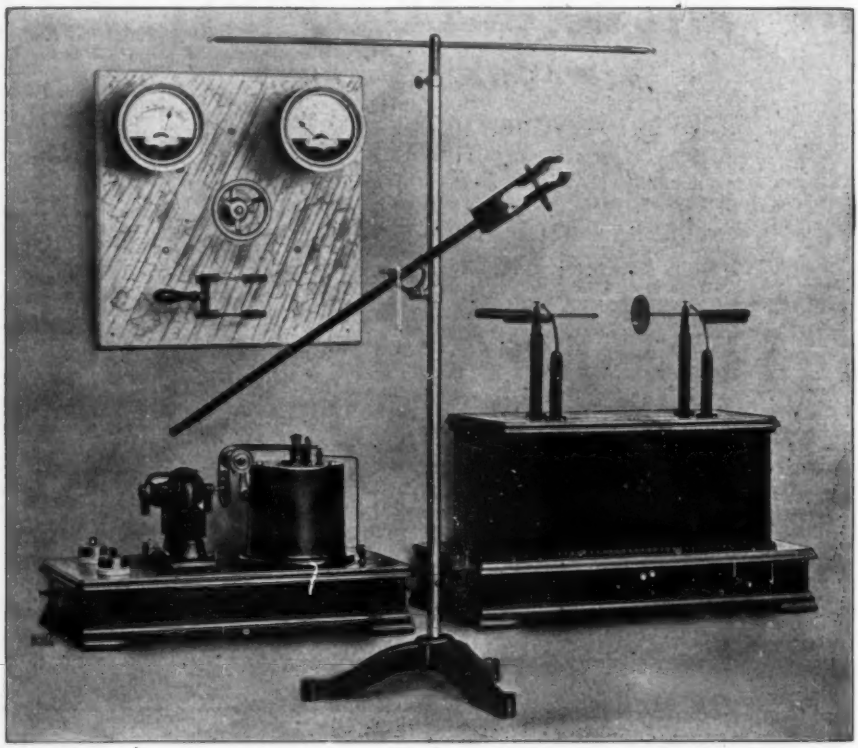

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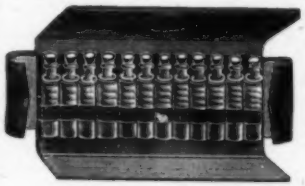

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